

# Facilities Guide

for  
Career and Technical  
Education



2008

Division of Career and Technical Education  
Kentucky Department of Education  
Frankfort, Kentucky



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## **INTRODUCTION**

The material in this guide is designed to aid school administrators, teachers, boards of education, advisory committees, and architects who share responsibility in the planning and equipping of a facility for career and technical education programs. This guide may be used in the construction of new facilities and/or the remodeling of existing facilities.

To design a functional facility, planners must understand the scope of the educational program(including career majors/career pathways), classroom activities, and instructional methods.

This guide is not intended to be all inclusive but will provide direction and stimulation for those responsible for planning and equipping a career and technical education facility. Additional assistance in each program area is available by contacting consultant(s) in the Kentucky Department of Education, Division of Career and Technical Education.

When federal and state funding is anticipated in the construction, compliance with federal and state regulations and guidance is mandatory. Additional information concerning these regulations may be obtained by contacting the Director of Facilities Management Division, Kentucky Department of Education.

## **RESPONSIBILITIES FOR PLANNING**

Facility planning should be a cooperative process. Some individuals and groups have special contributions to make when plans are being developed for a career and technical education facility. The following individuals and groups can make unique contributions to the task of planning adequate facilities:

### *Career and Technical Education Program Area Teaching Staff*

Because of their understanding of the curriculum, the objectives to be accomplished in the program, and knowledge of societal trends in their areas, program area teaching staff should be involved in the planning process. The teachers should know and be able to explain why a certain allocation of space is required.

### *Local School Administrators*

The overall view of the total school program, educational objectives of the school, and interrelationships existing between subject matter fields can be explained by the local school administrators. Their knowledge of the long-range needs of the community, the financial arrangement and the attitude of the community toward a building program is needed in the planning process.

### *Advisory Committee Members*

Because of their definite interest in the program area, awareness of all the persons and groups who can be served by the program, and knowledge of the needs in the particular program area to which they serve, advisory committee members need to make recommendations for the facility. Present and former students can help in analyzing characteristics of the existing facility to determine what to include or avoid in the new facility.

### *Consultants in the Department of Education*

State consultants and local supervisors of specific program areas need to be involved because of their firsthand experience in the classroom both as teachers and as consultants, their knowledge of state regulations and requirements, and of the many different kinds of facilities in schools across the state.

### *Architect*

A professional architect who understands how to incorporate the ideas of others into a creative plan which will meet the educational needs of the community assumes a vital role in the planning process.

It is important for the architect, educators, and community leaders to see each of their roles in relation to the planning process. The school administrator should provide leadership in this cooperative effort.

## **STEPS FOR TEACHER(S) TO FOLLOW IN PLANNING A PROGRAM AREA EDUCATIONAL FACILITY**

The most effective facility will be one in which all specific program area teachers within the school, administrators, advisory committee members, and program area staff in the Department of Education and architects have participated in planning. The best results will be obtained if a logical sequence is followed.

Step 1 - Develop or revise, if needed, the philosophy for the local program area department based on current and projected needs of the students, community, curricula, and trends in education and society.

Step 2 - Determine the present and long-range educational program based on the philosophy of the local program.

Step 3 - Review a variety of resources such as equipment catalogs, references on space, equipment and storage guides, and current professional journals.

Step 4 - Evaluate the present facility to determine what to include or avoid in a new facility.

Step 5 - Visit other schools in various communities to discuss with other program area teachers ideas for space needed, equipment, layout, etc. Remember, copying a plan from one school may not provide an appropriate facility for another community.

Step 6 - Develop basic educational specifications that will be required to meet programmatic needs of planned career majors/career pathways.

Step 7 - Interpret and discuss educational specifications that will be required to meet program needs.

Step 8 - Evaluate the preliminary architectural drawings using the criteria and educational specifications as guidelines. Provide rationale and description of suggestions for any needed changes to the designated person.

## **LOCATION OF SPACE FOR PROGRAM AREA FACILITY**

Accessibility is an important factor in determining location in order to render the best service to all persons and groups to be served. The following should be considered when deciding on the location of the specific facility:

- easy access to all persons and groups being served
- convenient for delivery of materials/supplies used in classes
- convenient installation and removal of large equipment
- accessible for physically challenged persons

When there is more than one room in the facility, locating the rooms adjacent to each other helps to unify the program and allow for communicating easily, sharing equipment, and exchanging classrooms.

## **PERSONS TO BE SERVED**

The potential individuals and groups of students along with their characteristics and needs should be considered when planning and equipping a career and technical education facility. Meeting the needs of the following groups should be considered:

1. Students enrolled in:
  - laboratory courses
  - non-laboratory courses
  - upper level courses
2. Students with special needs.
3. Members of career and technical education student organization(s).

## **CURRICULUM**

Career and technical education programs consist of a broad spectrum of courses that covers the major aspects of that particular program area. The program area involved will enable learners to manage the challenges of living and working in a diverse global society.

Curriculum for Career and Technical Education programs are based on objectives and goals that meet the state requirements for the Commonwealth Accountability Testing System (CATS). Teaching of the core content and academic expectations in expectations as identified in CTE Program of Studies, Career and Technical Education Program of Studies, enhances academic achievement through applied learning. The facility plans are organized by career majors/career pathways in each program area. [The Career and Technical Education Program of Studies](#) is found on the Kentucky Department of Education website: [www.kde.state.ky.us](http://www.kde.state.ky.us).

The career and technical education student organization relative to each area is to be an integral part of the curriculum and should be given consideration when space and equipment needs are planned.

## **GENERAL CONSIDERATIONS IN PLANNING**

Methods of teaching and learning experiences to be used in each area of instruction should provide direction for planning and equipping the facility. The kind of experiences should influence the size of room and the arrangement of space and equipment.

Types of teaching-learning experiences may include:

Individualized	Team Teaching
Discussion	Student Organization Meeting
Lecture	Cooperative Learning
Laboratory	Demonstration
Simulated	Supervised Study

A teaching-learning center is needed in each classroom. A teaching center should consist of: teacher's desk, table or mobile stand, interactive whiteboard permanently mounted with portable tablet, computers and projection equipment, tack board, filing cabinet, and space and electrical outlets.

A learning center for students should consist of: seating and writing surfaces for each student; access to computers, references and resource materials; and space and equipment for individuals, small groups, or entire class to work on class activities.

## **PREPARING EDUCATIONAL SPECIFICATIONS**

Well-prepared educational specifications serve as an instrument for good planning and design, and if used effectively, should result in a functional facility. Good planning and design are possible only when the architect has a clear picture of the program presented in the form of educational specifications. The specifications should furnish a basis for working drawings for the architect. They should be prepared in simple, concise language and be in sufficient detail to be easily interpreted by the architect and others.

Following is a suggested outline for the content of educational specifications for a career and technical educational program which should be prepared for the architect:

- I. The \_\_\_\_\_ Program (Area)
  - A. Statement of philosophy of the program area and the school.
  - B. Curriculum
    - 1. Purposes
    - 2. Career Majors/Career Pathways offered
    - 3. School-Based Enterprises
    - 4. Classroom activities and instructional methods
    - 5. Length of program
  - C. Age groups to be served and their distinctive characteristics
  - D. Maximum class size
- II. General Requirements
  - A. Space
    - 1. State recommended square feet needed
    - 2. Number of teachers in program area
    - 3. Number and types of rooms/laboratories/work areas/offices
    - 4. Instructional areas to be taught
    - 5. Types of teaching-learning activities
    - 6. Storage space for student supplies and materials
    - 7. Storage space for teacher supplies and instructional materials
    - 8. Access and usability for physically challenged persons
  - B. Location
    - 1. Preferred location in the building
    - 2. Rationale for location
  - C. Utility Services
    - 1. Types needed for each room (electric, gas, water)
    - 2. Present and future equipment and plumbing needs
    - 3. Location of network connections
    - 4. Facilities meet KETS standards
- III. General Details
  - A. Types and finishes for cabinets
  - B. Preferred floor coverings for each room
  - C. Color for walls, cabinets, floor
  - D. Materials for work surfaces, walls
  - E. Preferred layouts for activity area
  - F. Lighting and ventilation needs

#### G. Furniture and equipment suitable for use in new facility

The information in the educational specifications should be presented in writing. Some information may best be expressed in table form and diagrams. It would be helpful if the architect would visit a variety of career and technical classes in the program area to see some possibilities for using space, designing facilities for specific needs, and for locating equipment.

The architect's interpretation of the educational specifications should be submitted to the administrator and the person(s) who prepared the specifications. In the event of changes to the plan, persons involved should be given an opportunity to help determine adjustment to be made.

In multi-teacher facilities, adjacent rooms unify the program by allowing for easy communication, sharing of equipment, and exchanging rooms for instruction. In schools with several rooms, rooms on both sides of the corridor make for a more compact facility than a row of rooms the length of the corridor.

## PROGRAM SPACE SQUARE FOOTAGE Career and Technical Education

SPACE	PROGRAM (CAPACITY)	MIN SQ FTG
AG1	Agricultural Education (1 teacher)	3,120
AG2	Agricultural Education (2 teacher)	3,900
AG3	Agricultural Education (3 teacher)	4,680
BE1	Business Education (1 teacher)	1,520
BE2	Business Education (2 teacher)	3,040
BE3	Business Education (3 teacher)	4,560
BE4	Business Education (4 teacher)	5,185
ME	Marketing Education	1,600
HE1	Family and Consumer Sciences (1 teacher)	2,700
HE2	Family and Consumer Sciences (2 teacher)	3,350
HE3	Family and Consumer Sciences (3 teacher)	4,000
ET1	Engineering and Technology Education (1 teacher)	2,750
ET2	Engineering and Technology Education (2 teacher)	4,750
HS	Heath Sciences	1,280
IT	Information Technology	3,250
DRF	Drafting	1,800
MAC	Auto Parts, Commercial Art, Mine Operator, Meat Cutting, Office Machine Small Engine Repair, Tailoring	3,000
MNT	Building Maintenance, Commercial General Miner, Radio and TV Production	2,400
PC	Pathway to Careers	2,000
IND	Industrial Air Conditioning, Appliance Repair, Cabinet Making, Carpentry, Electricity, Electronics, Civil and Highway Technology, Heavy Equipment Repair, Industrial Machine Maintenance, Interior Finishing, Masonry, Mine Equipment Maintenance, Radio and TV Repair, Sheet Metal, Tool and Die Marking, Upholstery, Welding	3,000
PLM	Plumbing	3,500
AUB	Auto Body	3,600
MEC	Aircraft, Auto, Diesel and Truck Mechanics, Graphic Arts	4,000

## SPACE REQUIREMENTS

Adequate and functional facilities aid learning and can contribute to making the teaching-learning activates meaningful and satisfying experiences. The number of rooms depends on the number of teachers for the program area and enough space to carry out a comprehensive curriculum.

In a middle/junior high school, a single classroom/multi-purpose room with one teacher might be used for teaching exploratory aspect of the curriculum. If more than one teacher is employed, or if it is anticipated that in the near future more than one teacher will be needed, it is recommended that sufficient rooms be included in the original plan for meeting these needs.

At the high school level, the number of rooms recommended depends on the program area. There should be sufficient space to offer all aspects of the curriculum with emphasis on career major. (See individual program area specs)

In multi-teacher facilities, adjacent rooms unify the program by allowing for easy communication, sharing of equipment, and exchanging rooms for instruction. In schools with several rooms, rooms on both sides of the corridor make for a more compact facility than a row of rooms the length of the corridor.

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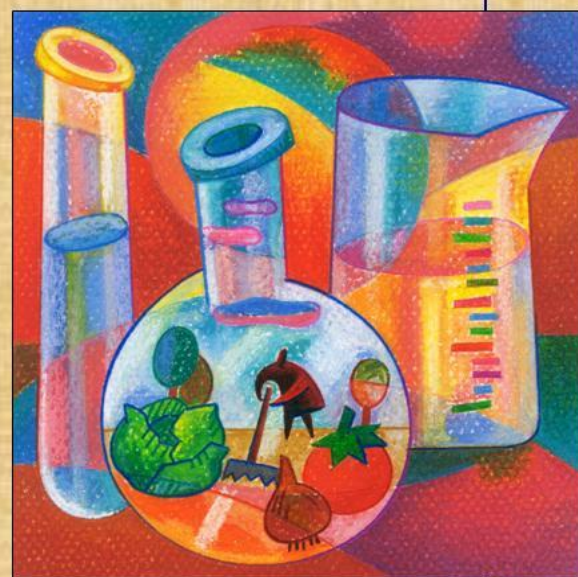
NOTE:                      For all CTE Program

General safety/first aid equipment should be found in classroom and laboratory areas.

This would include, but not limited to:

- Fire extinguisher
- Smoke alarm
- First Aid kit
- Hazardous waste spill kit

# AGRICULTURAL EDUCATION FACILITY GUIDE



# AGRICULTURAL EDUCATION

- OVERVIEW
- GENERAL SPECIFICATIONS
- SAMPLE ROOM LAYOUTS
- RECOMMENDED EQUIPMENT LISTS



**ARGICULTURAL EDUATION PROGRAMS shall be provided in accordance with the following table:**

**AGRICULTURAL EDUCATION**

Grade Level	Minimum Unit Area (Square Feet)	Unit/Student Ration
Elementary	N.A.	N.A
Middle/Junior High	750	1/150
High	One teacher: 3120	1/120
	Two teachers: 3900	
	Three teachers: 4680	

**Location:** On the ground floor with access to an exterior fenced courtyard. Locate greenhouse to take advantage of the sunlight.

**Support Spaces:** The instructional area shall be internally subdivided to provide the following support spaces:

**AGRICULTURAL EDUCATION SUPPORT SPACES**

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	N.A.	N.A	N.A
High School (1 Teacher)	Classroom	750	Hot & cold water sink located at teacher's station or resource cabinet
	Agricultural Education Lab	2000	Provide access through a 10'x10x overhead door to an exterior 2000 SF courtyard enclosed with an 8'-0" high fence with a 10'-0" wide gate located opposite the overhead door for direct access
	Office	100	Provide voice, data and power outlets
	Resource Storage	100	Accessible from classroom
	Tool & Supplies	170	Accessible through "Dutch" door

High School (2 Teacher)	Classroom	2@750=1500	Same as Special Features for 1 Teacher program
	Agricultural Education Lab	2000	
	Office	130	
	Resource Storage	100	
	Tools & Supplies	170	
High School (3 Teacher)	Classroom	3@750=2250	Same as Special Features for 1 Teacher program
	Agricultural Education Lab	2000	
	Office	150	
	Resource Storage	100	
	Tools & Supplies	180	
High School With Greenhouse	Classroom	750	Hot & Cold Water Sink located at teacher's station or recourse cabinet
	Agricultural Education Lab	2000	Provide access to an exterior 1250 SF courtyard enclosed with an 8'-0" high chain-link fence
	Office	100	Provide voice, data and power outlets
	Resource Storage	100	Accessible from class
	Tools & Supplies	200	Accessible through "Dutch" door
	Greenhouse	1800	Divided into two areas with separate temperature controls: a 600 SF Preparation Area, and a 1200 SF Plant area; Locate close to Agr. Education Lab when Horticulture Career Major only is offered
	Head House	600	May be incorporated into the Agr. Mech. Lab when Horticulture Career Major only is offered

The **Minimum Standards** as given by the following table shall be provided in each Agricultural Education Program:

### MINIMUM AGRICULTURAL EDUCATION INSTRUCTIONAL PROGRAM STANDARDS

Standard	Minimum	
	Support Space	Instructional Space
Student Capacity	N.A	N.A
Ceiling Height	8' -8"	8' – 8"
Room Dimension	8'- 0"	22' – 0"
Artificial illumination	50 Foot candles	50 foot candles
Chalkboard/Markerboard	N.A	N.A
Tack board	N.A	N.A
Finishes	Low Maintenance	Low Maintenance
Storage	See b. 14.2	
Technology	Voice, data and video outlets at (1) teacher station; Data outlet at each student station per KETS standards; Power outlets at each computer and video outlet	
Equipment	(see approved Equipment List)	
Utilities		
Special Features		

## ADDITIONAL GUIDELINES FOR PLANNING AGRICULTURAL EDUCATION FACILITIES IN KENTUCKY SCHOOLS

### Program Area Personnel and the Planning Process

Because of their knowledge and understanding of the curricula, objectives, and the agricultural/agribusiness industry, the agricultural education teacher(s) should be involved in the planning process. The teacher should be permitted to explain space needs for classroom( s), agricultural mechanics/engineering laboratory, agricultural science laboratory, greenhouse(s), head house, lath house, storage, machinery court(s), tool room, land laboratory, plant nursery, small and/or large animal handling facilities (barns, corrals, etc.), and other space requirements that may be relevant to the local situation.

State staff members and teacher educators need to be involved because of their experiences as teachers, supervisors or teacher educators. They have knowledge of state regulations and have seen many different facilities throughout the state.

### Location of Space for Agricultural Facilities

Easy accessibility is important in the location of the agriculture facility. The diversity of groups served makes it desirable to locate the facility on the ground floor at the end of a wing of the building that will permit access by truck, tractors, trailers, combines and other vehicles and equipment.

An entrance (overhead door) that will provide indoor unloading is necessary. This will permit convenient delivery of laboratory supplies and installation of large equipment.

The location should also provide convenient entrance for night classes without having to open the main entrance to the building. It should provide accessibility for the physically challenged and convenient entry for persons from the agriculture community utilizing the facility.

Locating the classrooms, laboratory, office, greenhouse, head house, etc. adjacent to each other gives unity to the program and allows for better communication among teachers, sharing of equipment and classrooms.

### Agricultural Curricula

Agricultural Education consists of a broad spectrum of courses that cover the major aspects of the agricultural industry. There are currently six (6) career majors in agriculture: Agriscience, Agricultural Production, Horticulture, Agricultural Mechanics /Engineering, Agribusiness and Forestry/Natural Resources. The curriculum will need to change as the industry changes, and all facilities need to be planned with flexibility and versatility in mind.

The facility should reflect the type of curricula provided. A facility may be planned to accommodate more than one curriculum (career major area). Joint use of an agricultural mechanics/engineering laboratory may be made by an agricultural production and horticulture program, provided the lab area is large enough to accommodate both programs.

Specific programs in agriscience, horticulture, forestry and natural resources and specialty areas (aquaculture, small animal technology, bio-technology, wildlife management, floral design, food technology, etc.) may in some instances need facilities specifically designed to accommodate the curriculum. For example, Forestry/Natural Resources programs are recommended to have access to outdoor land laboratories. These labs should be at least five acres in size and would be more desirable in the 10 to 20 acre range.

Many "new construction" programs are utilizing a flexible laboratory approach, with a heavy emphasis on agriscience facilities, computer technology, etc., while also providing space for small engines (and other mechanics/engineering instruction). These labs allow a wide range of career major areas to be explored (electricity, tissue culture, bio-technology, welding, landscape design, hydraulics, animal science, plant science, soil science, food technology, etc.).

## **Facilities Specifications: Agriculture Office**

### **Minimum Requirements**

An office is recommended in all departments. There is a great deal of supporting material required to maintain and operate a program in Agricultural Education. This material needs appropriate storage and organizational space.

An office is required for departments with two or more teachers. The minimum size for an office is 100 sq. ft. Eighty square feet per teachers is the minimum space requirement for departments with two or more teachers.

The office should provide a locking teacher's desk and enough filing space to accommodate the needs of the department. A computer desk should also be provided.

The office should be easily accessible from the classroom and laboratory. Large glass windows between the office and the classroom, as well as the office and the laboratory area would be advantageous.

Telephone services should be available for landline phones, fax machines and computer Internet access.

## **Facilities Specifications: Agriculture Laboratory**

The Agricultural Education laboratory is usually the largest component in the agriculture facility. It must accommodate a wide range of learning activities, school based enterprises and student work based learning activities/projects.

Agricultural Education consists of a broad spectrum of courses that cover the major aspects of the agricultural industry. There are currently eight career majors in agriculture: Agricultural Education, Communication and Leadership; Agricultural Power, Structural and Technical Systems; Animal Science Systems; Environmental Science & Natural Resources Systems; Food Science & Processing Systems; and Horticulture, & Plant Science Systems. The curriculum will need to change as the industry changes, and all laboratory facilities need to be planned with flexibility and versatility in mind.

The laboratory facility should reflect the type of curricula provided. A facility may be planned to accommodate more than one curriculum (career major area). Joint use of an agricultural mechanics/engineering laboratory may be made by an agricultural production and horticulture program, provided the lab area is large enough to accommodate both programs.

Specific programs in agriscience, horticulture, forestry and natural resources and specialty areas (aquaculture, small animal technology, bio-technology, wildlife management, floral design, food technology, etc.) may in some instances need facilities specifically designed to accommodate the curriculum. For example, Forestry/Natural Resources programs are recommended to have access to outdoor land laboratories. These labs should be at least five acres in size and would be more desirable in the 10 to 20 acre range.

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### **Minimum Requirements**

The minimum square footage for the mechanics/engineering lab is 2000 square feet. It should have a minimum width of 40 feet and a minimum clear ceiling height of 12 feet. A 10-foot by 10-foot overhead door should be installed in order to allow large equipment into the lab area. Wiring should accommodate different types of agricultural mechanics/engineering equipment (such as welders). Proper exhaust/ventilation systems must be installed.

Overhead storage may be constructed above storage/tool rooms. Proper floor drains and hand wash areas should be installed. A shower/eyewash area is strongly recommended.

Student lockers should be provided to accommodate books and clothing needs.

### Storage Room

The storage room should allow for adequate storage of tools and small equipment. While needs vary by the number of teachers and number of programs offered, 200-300 square feet is a good general recommendation. While more than one door may be installed to the room, it is strongly recommended that one door be at least 4 feet wide.

### Machinery Court

The machinery court must be located outside the large overhead door entrance to the laboratory. The size of the court should be at least half the size of the lab area (although an equal square footage would be desirable). An 8-foot chain link fence should be installed around the machinery court, with a large gated opening, allowing for large machinery to be moved in and out. The surface of the area should be concrete or asphalt. Water bibs and drains should be installed in the machinery court area.

## **Facilities Specifications Animal Laboratory**

An animal laboratory can offer students the opportunity for observation and hands-on experiences with animals. The modern agricultural education program may have the need for both small (domestic pets) and large (farm) animal facilities.

The structure should be designed with versatility in mind. A basic livestock barn type structure can economically provide an excellent laboratory for large (farm) animals. Contact your local county agriculture extension office for construction plans. Detailed modification of an existing laboratory facility might be required for small animals (pets).

The structure should allow all types of animals to be handled. Facilities should allow animals to be penned, tied, restrained, washed, groomed, presented for judging and evaluation and prepared for exhibition.

A 70 ft. by 40 ft. structure is suggested (for large animal or a combination structure). A "small animals only"; curriculum could be housed in a smaller facility. The size of the program and the activities planned for the laboratory should determine the exact size needed.

Livestock handling equipment may need to be portable to insure flexibility.

Size requirements for cages, pens, etc. for small animals should be secured from local humane societies, animal shelters, etc.

One to five acres of land would allow for grazing areas for livestock, exercise for livestock, provide an area suitable for training animals and would be a desirable addition to the facility.

## **Facilities Specifications: Greenhouse**

### **Minimum Requirements**

The minimum requirements for the greenhouse facilities for a high school horticulture program are:

- 1,800 sq. ft. greenhouse (two-room construction is recommended to provide 500-800 sq. ft. of warm germination space and 1,000-1,300 sq. ft. of cooler growing space).
- 600 sq. ft. headhouse (2000 sq. ft. is required when horticulture is the only agriculture program offered).
- 1,200 - 1,500 sq. ft. lathe house is highly recommended.
- A land laboratory (1- 5 acres) is recommended.

To improve cost efficiency in greenhouse operation, the greenhouse should be divided into two rooms. One room should be heated for bedding and propagation of warm growing plants. The temperature should be maintained at 60-70 degrees F in this room.

The other room will be used for flowers and vegetables. These plants respond best when environmental temperature is maintained in the 55-60 degree F range.

The greenhouse environment is not conducive to storage of equipment and supplies. The high humidity will rust tools, cake powders and fertilizers, and cause some seeds to germinate while still in their packets. Consequently, a headhouse is required to properly manage the greenhouse operation. It should be kept dry with appropriate ventilation during the spring and summer and additional heat during the fall and winter to provide acceptable working conditions for students. The headhouse should be designed to provide working space for students that is adjacent to the supply storage area. A sales area also needs to be provided so students can market the plants that are produced.

The lathe house will provide an area for mature plants to be hardened off in preparation for selling and/or transplanting.

The land laboratory can be used in many ways to provide students opportunities for horticultural crop production, nursery crop production, turf grass production, orchard production, landscape installation, etc.

The greenhouse should be used as a student laboratory. It should be possible to:

- propagate plants from seed or prepare seed flats
- propagate plants from softwood cuttings
- propagate nursery stock from hardwood cuttings
- produce bedding plants
- produce cut flowers
- produce vegetables
- produce plant science experiments
- conduct agricultural science research projects

### Site Selection

Site selection is extremely important when planning a greenhouse facility. The following factors are vital for success:

- Locate the greenhouse for maximum sunlight exposure. The east-west direction for roof ridge is recommended. A north-south ridge can be used if it fits the facility layout. Shading from buildings, trees and objects must be minimized. The greenhouse should be moved away from shade objects a distance of three to five times the height of the shading object. The east, south and west side of the greenhouse must have shading minimized. The type of cover will control sunlight exposure.
- Locating the greenhouse to use the prevailing winds is more important than locating for sunlight exposure.
- Locate on a level, well-drained site where surface water will not run into the house. If surface water poses a potential problem the use of a ground footer is recommended.
- Avoid sloping beds or floors in the greenhouse.
- Soil for ground bed culture should be a deep, well-drained, sandy or silt loam. If a location with such soil is not available, soil will need to be hauled in or certain artificial media methods considered.
- Keep the greenhouse away from dirt or gravel playgrounds, parking lots, and compacted soil areas. It should be located away from athletic fields where dust is

excessive, damage or vandalism may occur, and athletic activity and security lights may affect the daylight and darkness ratio.

### Construction

The following points need to be considered when building a greenhouse:

1. A solid concrete slab is not recommended for greenhouse construction. The solid concrete floor makes it difficult and expensive to maintain correct humidity levels in the greenhouse. A concrete footer is not required. If one is used, it should be 12" to 18" high with minimal steel reinforcement. This would provide adequate lateral and vertical foundation strength and a pleasing appearance around the outside of the greenhouse base. The below-ground footing restricts surface water from seeping into the building.
2. A durable thermoclear covering with several years of serviceable life is recommended. It is more economical in the long run. The durability of the material, the manufacture's reliability, and the cost should be investigated before purchasing. Glass greenhouses are excellent if the initial cost will fit the project budget. The annual covering with polyethylene film is not desirable for school locations. Fiberglass should not be used.
  - Greenhouse covers are selected for adequate light transmission in the winter months. Spring and fall light transmission is not a problem in Ky.
  - Polycarbonates lose their transmission ability after 10 years; however, polycarbonates are essentially vandalism proof.
  - Any covering selected should be a greenhouse grade that is approved and recognized as acceptable for this purpose.
3. Fully automatic environmental equipment should be part of the initial greenhouse construction. This includes:
  - An automatic heating system. The propagation room needs a Biothermo system for bench heating.
  - Overhead forced air would be adequate for the balance of the propagation room and for the growing room.
  - A mist system and irrigation system with injectors should be part of the initial construction.
  - Electricity to accommodate at least two (2) timer clocks.
  - The water line should be installed along the back side.

4. Continuous air circulation needs to be provided inside the greenhouse equal to 20 to 30 percent of the house volume in cubic feet per minute with a reputable fan circulation and heat distribution method. Fan and louver location are very important. The most efficient ventilation system has the fan on the side wall pulling with the prevailing wind flow. Pushing air against the prevailing wind direction is not recommended.
5. High volume A.M.C.A. certified fans rated for a total of 17,000 CFM at 0.10 inch static pressure are recommended for summer ventilation and solar heat control.
6. Gravity and motorized shutters are used for air passage and anti-back draft functions.
7. Thermostats and proper fusing are necessary for automatic and side operation of the equipment.
8. The floor surface of the greenhouse should have a 4-5' concrete walk. There should be a drain field underneath the bench area. The surface of this area should be covered with 3-4" of #7 to #9 limestone rock. A solid concrete floor is not recommended. The solid concrete, while easier to keep clean, will affect the moisture and humidity level in the greenhouse. It will be more difficult to maintain the proper humidity levels without some type of automated humidity system which will increase the cost of maintenance and operation.
9. If only one greenhouse is built, it should be divided into two rooms. This will improve the versatility of the structure since some plants need a cooler, drier environment than others.

### Greenhouse Specifications

One (1) 30 x 60 structure with extrusion and accessories necessary for construction.

Polycarbonate covering for roof, sides, and ends, with one (1) 42" door. (2 doors may be more accessible)

Two(2) 115 volt natural gas heaters.

One (1) fan jet with motorized shutter and heater kit plus installation accessories.

Two (2) fans - one single speed, one 2-speed with slant walls, automatic shutter, half (112) horsepower motor, plus installation accessories.

One (1) kool cell system with inlet shutter for kool cell system.

One (1) step 50 environmental control and necessary relays.

Shade fabric covering material and installation accessories.

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The following is a suggested list of bidders. Other companies may also be interested if you have contact information.

STUPPY1NC.  
P.O. BOX 12456  
NORTH KANSAS CITY,  
MISSOURI 64116  
PHONE: 1-800-877-5025  
Attention: Steve Ross (Ky field rep.)

LUDY GREENHOUSE  
MANUFACTURING CO. BOX 141  
NEW MADISON, OHIO 45345  
PHONE: 513-996-1921  
Attention: Wal Poetch

B & K INSTALLATIONS, INC.  
246 SOUTHWEST 4<sup>TH</sup> AVENUE  
HOMESTEAD, FLORIDA, 33030  
PHONE: 1-800-523-3870  
FAX: 305-245-8119

BALL SEED COMPANY  
P.O. BOX 335  
WEST CHICAGO, ILLINOIS 60185  
PHONE: 1-708-231-3500

ROUGH BROTHERS INC. 5513  
VINE STREET CINCINNA Nate,  
OHIO 45217 PHONE: 1-800-543-735  
Attention: Mike Ward

## **Facilities Specifications Headhouse**

### Minimum Requirements

The minimum requirements for a headhouse are:

600 sq. ft. for horticulture facilities that are part of an agriculture program where other programs and facilities are offered.

2000 sq. ft. for horticulture facilities where it is the only agriculture program offered.

Each headhouse should have a heated room in which students can work, a ventilated chemical storage room and a bulk storage area.

### Construction

If possible, the headhouse and greenhouse should be connecting structures. The headhouse should be divided so that a minimum of 200-300 sq. ft. is designed for a student work area.

A minimum of 300-400 sq. ft. should be designed for the purpose of storage of media supplies and tools.

### Student Work Area

The student work area should have a concrete floor and insulated walls and ceilings to maintain a 70-degree temperature. It should have adequate lighting to provide 50-foot candles of light at the table or bench top level.

Workbenches may be installed, along with walls or tables. Benches should be 30-36 inches wide and 32-36 inches in height.

### Chemical Storage

The chemical storage room should be adjacent to the student work area to provide a source of dry, warm air. This room must be vented. The instructor should decide whether the chemical storage room should open into the workroom or into the storage area or into both areas.

The storage area should be kept dry, but it does not require heating. A concrete floor is recommended. A room to store tools should be a part of the storage area. At least one 12-foot overhead door should be installed.

## **SPACE REQUIREMENTS**

Adequate and functional facilities aid learning and can contribute to making the teaching-learning activities meaningful and satisfying experiences. The number of rooms depends on the number of teachers for the program area and enough space to carry out a comprehensive curriculum.

In a middle/junior high school, a single classroom/multi-purpose room with one teacher might be used for teaching exploratory aspect of the curriculum. If more than one teacher is employed, or if it is anticipated that in the near future more than one teacher will be needed, it is recommended that sufficient rooms be included in the original plan for meeting these needs.

At the high school level, the number of rooms recommended depends on the program area. There should be sufficient space to offer all aspects of the curriculum with emphasis on career major. (See individual program area specs)

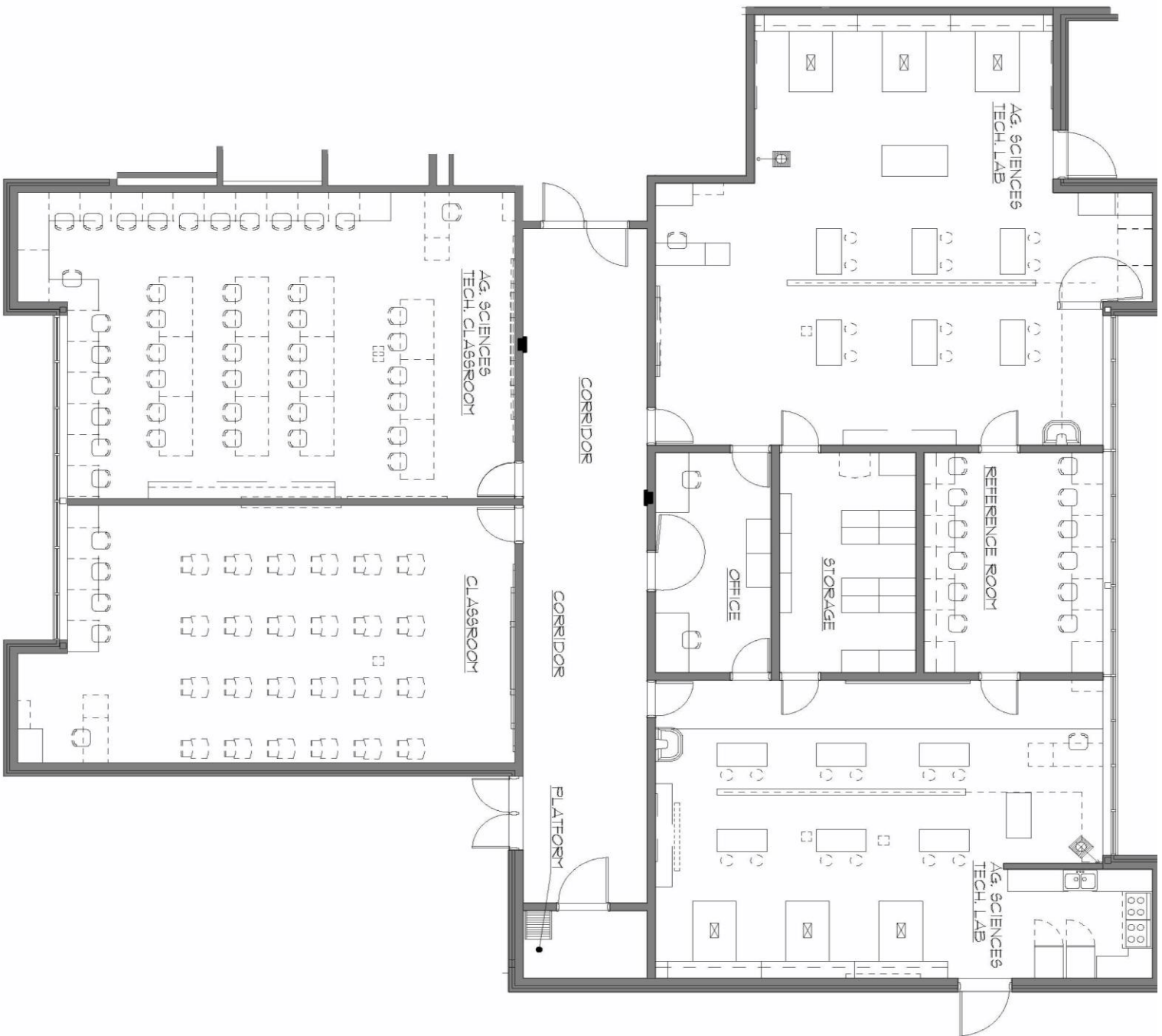
In multi-teacher facilities, adjacent rooms unify the program by allowing for easy communication, sharing of equipment, and exchanging rooms for instruction. In schools with several rooms, rooms on both sides of the corridor make for a more compact facility than a row of rooms the length of the corridor.

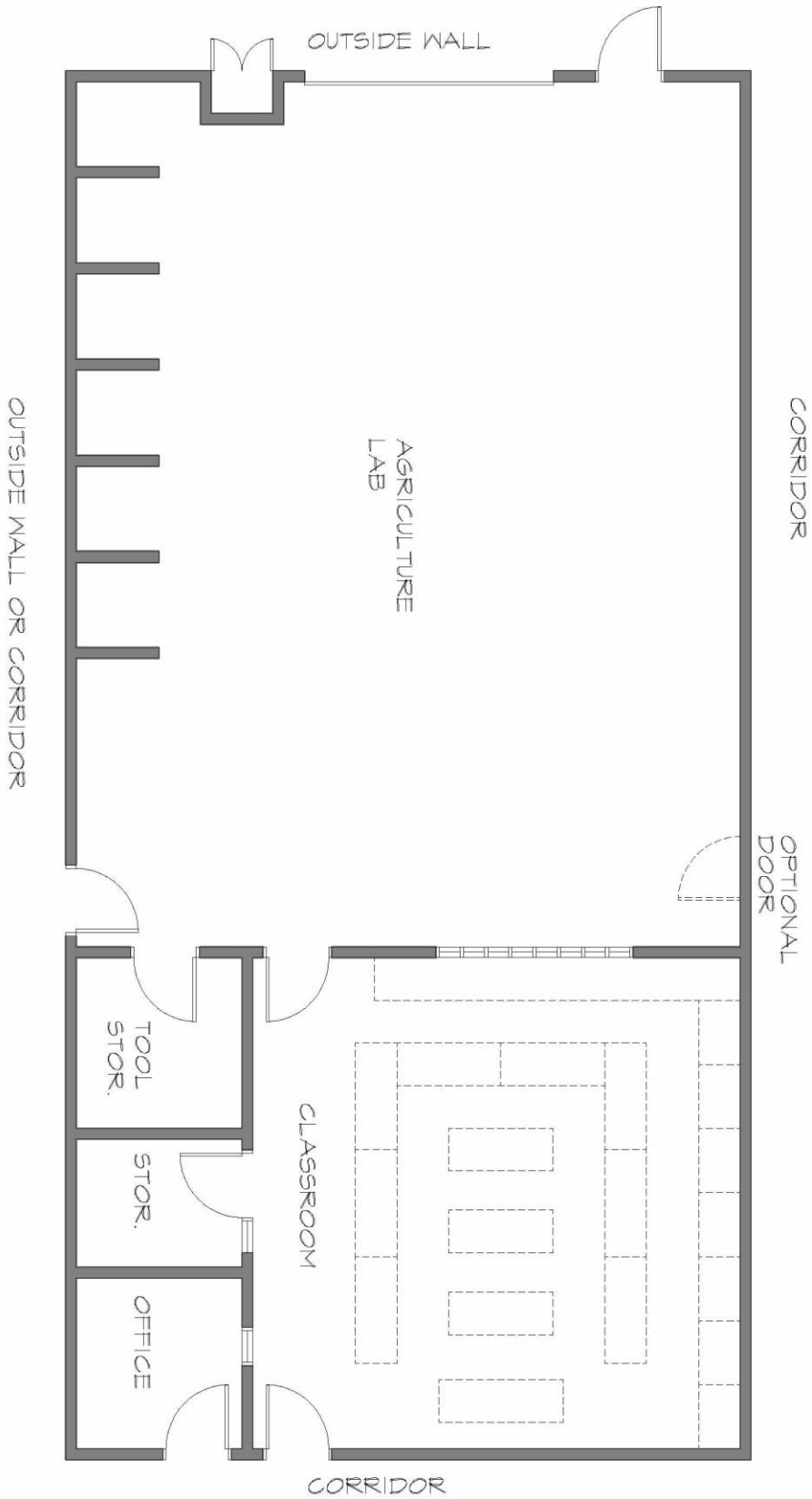
PROJECT NO.: 2008/251  
 DRAWN BY: KENTON, INC.  
 CHECKED BY: KENTON, INC.  
 APPROVED BY: KENTON, INC.  
 PLOT DATE: 1-25-2008  
 REVISIONS:

Agriculture Science Classroom and Laboratory  
 KENTUCKY DEPARTMENT OF EDUCATION  
 Division of Career and Technical Education  
 Frankfort, Ky 40601  
 500 Mero Street 2119 Capital Plaza Tower

**HDDS inc**  
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 SUITE 101  
 COLUMBIA, KENTUCKY  
 40302-5803  
 TEL: 502-243-1000  
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4 OF 27  
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PROJECT NO: 00000001  
DRAWN BY: J. H. HARRIS  
CHECKED BY: J. H. HARRIS  
APPROVED BY: J. H. HARRIS  
PLOT DATE: 6-17-2008  
REVISIONS:

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Division of Career and Technical Education  
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SHEET TITLE  
A-  
SHEET NUMBER  
7 OF 27  
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**GREENHOUSE**  
**KENTUCKY DEPARTMENT OF EDUCATION**  
Division of Career and Technical Education  
500 Mero Street 2119 Capital Plaza Tower  
Frankfort, Ky 40601

WEST MARKET STREET  
SUITE 101  
LOUISVILLE, KENTUCKY  
40202-2600



**SHEET TITLE**

A.

BIBLOT NUMBER

8 of 27

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**AGRICULTURAL EDUCATION**  
**AGRIBUSINES CAREER MAJOR**  
**EQUIPMENT LIST**

<b>ITEM</b>	<b>ITEM DESCRIPTION</b>	<b>QUANTITY</b>
Register	Sales ticket	3
Register	Cash	3
Scale	Electronic	
Counter	Check-out	1
Machine	Check writing	1
Imprinter	Credit card	1
Recorder	Cassette	1
Shelving	Display	
Calculator		3
Cabinet	File	1
Laptop	Wireless Internet Connection	
Computers	CD Rom, Internet Access	15-20
LCD Projector		1
Printers	Desk Jet	1-2
Digital Camera		1
Software	Appropriate for Curriculum	15-20
Smart Board	Standard Size	1
Bar Code Scanner	Store Model	1
Smart Board	Standard Size	1
PCSF Machine (Printer, Copier, Scanner, & Fax)	Marketing/Business Publications	1

**AGRICULTURAL EDUCATION**  
**GENERAL, ALL PROGRAMS**  
**COMPUTER TECHNOLOGY**  
**EQUIPMENT LIST**

**Classroom Recommendations:**

<b>ITEM</b>	<b>ITEM DESCRIPTION</b>	<b>QUANTITY</b>
Computer	Desktop with 15" or 17" monitor, keyboard and mouse	15 - 20
LCD Projector	Teacher's Workstation	1 per classroom
Screen	Large	1 per classroom
Scanner	Connected to Teacher's Workstation or separate computer	1 per classroom
Digital Camera		1 per classroom
Printer	Network Color Laser	1 per classroom
Printer	DeskJet for Teacher's Workstation	1 per classroom
Computer Software	Microsoft Office to include: Word, Power Point, Excel, Access, Quicken Deluxe 2001 and Autosketch	Each computer

**Agriculture Office:**

<b>ITEM</b>	<b>ITEM DESCRIPTION</b>	<b>QUANTITY</b>
Computer	Desktop with 15" or 17" monitor, keyboard and mouse	1
Printer, Copier, Scanner and Fax	DeskJet	1

## AGRICULTURAL EDUCATION

### ALL PROGRAMS

### EQUIPMENT LIST

#### **Office Equipment**

Copy Machine	Copy, transparencies, etc. (optional)	1
Scanner	Flatbed	1
Chairs	Plastic or wood, conference chairs	2
Bookcase Case Shelves		1
Calculator	Electronic, w/display and printout	1
Filing cabinet	4 drawer with lock	2/teach
Chair	Side, plastic or wood, straight	2
Desk	30" x 60" x 30" office	1/teach
Desk chair	With arms and swivel base	1/teach
Tack board*	3' x 4'	1
Telephone	Dedicated Line	1
Computer	Local decision	1/teach
Electric Stapler	30 Page Capacity	1
Refrigerator (Store lab samples)		1
Microwave		1

**AGRICULTURAL EDUCATION  
GENERAL, ALL PROGRAMS  
EQUIPMENT LIST**

**Classroom Equipment**

ITEM	ITEM DESCRIPTION	QUANTITY
Teacher desk	30" x 48" x 30"	1/room
Teacher chair	Desk with arms and swivel base	1/room
Student chair	Plastic or wood, straight, stacking	31
Student table	Two pupil, 30" x 60"	12
Screen, projection	70" x 70" wall mounted	1/room
Filing cabinet	4 drawer with lock	1-4
Projector	Overhead, portable w/case	1
Projector	Slide	1
LCD Projector	Computer Projector	1
VCR/DVD Combo	With monitor 36" or better	1
Computer	2 disk drives equal to 512K or greater, 20 G at least W/Internet access, CD Rom	3-5
Computer Printer	Ink Jet, Color	1
Rack	Magazine	1
Camera	35mm, Digital camera	1
Video Camera*	Scanner	1
Smart Board	Standard Size	1
Dry Erase Board		
TV-Computer Compatible		1
CD Burner		1
Laptop	Wireless Internet Connection	1
Telephone	Touch Tone	1 each
PSCF Combo	Printer, Scanner, Copier, & Fax	1 each
Smart Board	Standard Size	1 each

**AGRICULTURAL EDUCATION  
AG. MECHANICS/ENGINEERING CAREER MAJOR  
EQUIPMENT LIST**

ITEM	ITEM DESCRIPTION	QUANTITY
Cleaner	Piston groove for 3" to 6" pistons	1
Clutch alignment tool set		1
Computer	With internet access	1
Compressor	Valve spring, for tractor engines	1
Coupling set	Hydraulic hose	1
Creeper	Mechanic	2
Dial indicator set	Complete w/attachments (equiv. to Starrett)	1
Engine stand	Portable, equiv. to universal 3300	1
Grinder	Valve face, equiv. to Black and Decker 282	1
Grinder	Valve seat, equiv. to Black and Decker 800-6	1
Injector service kit	Cleaning	1
Ironworker	Shear, punch, and bender w ½ " capacity	1
Magnetic base	Dial indicator set base	1
Metal Band Saw	7" cutting capacity	1
Metal Cutting Saw	BEWO metal saw or equivalent	1
Micrometer set	Outside - inside	1
Portable table	Tool movement, heavy duty	2
Press*	Arbor, 50 ton Hydraulic with compression gauge	1
Reamer	Ridge for 3" to 6" cylinder	1
Sleeve puller set	Universal set	1
Tester	Alternator-regulator, equiv. to KAL Alternator tester	1
Tester	Cylinder leakage, 0-300 lbs.	1
Tester	Diesel nozzle injector and adapter kit, for farm tractor and universal adapter kit	1
Tester	Vacuum gauge, equiv. to Sono 1560	1
Tester	Hydraulic, including hose assembly ad adapters	1
Tester	Valve spring, 0-500 lbs.	1
Anvil	250 -3000 lbs.	1
Battery service kit	Special tools and charger	1
Bushing driver	Assorted sizes	1
Pressure Washer	3000 psi	1
Compressor	Air, two stage, 7-10 HP, 3 phase 80 gal tank	1
Drill bit	1/16" to 3/4", twist set	2
Drill bit*	13/16" to 1 1/2" twist set	1
Drill	Portable, electric, 1/2"HD double insulated, variable speed – w/keyless chuck	2
Drill	Portable, electric 3/8"HD	3-4
Drill press	Floor, 3/4HP, 15" throat w/vise	1
Grinder	Bench, 1/2HP, 7" x 1" wheels	1
Grinder	Pedestal, 2HP, 12" x 2" wheels	1
Grinder	Portable, electric, 4" wheels	2
Grinder	Horizontal disc 7" HD	1
Hoist	Track and roller chain, 2-ton capacity manual or electric	1
Hone	Cylinder, for 3" to 6" cylinders	1

Jack	Floor, 2-ton capacity	1
Paint spray set	Gun, cup, regulator, hose, valve, etc	1
Cabinet	Paint storage	1
Plasma Cutter	50 amp or larger	1
Plumbing kit	10", 14", 18" pipe wrenches; ratchet; 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2" dies; pipe cutter; vise; reamer; and propane torch set	1
Puller	Gear set, wheel and gear	1
Sander	Orbital	1
Saw	Portable electric, 7" to 8 1/2" "HD	2
Saw	Jig or Sabre, super duty	1
Saw	Tilting Arbor, table 5HP, 12-14" blade	1
Saw	Chop, 12" with masonry and metal discs	1
Saw	Chain, 16" gas with chain brake	1
Saw	Radial arm, 12" equivalent to Delta #33-891	1
Socket set	1/2" drive, 12 point, 3/8" to 1 1/4" deep socket and regular socket	2
Socket set	3/8" drive, regular and deep socket	6
Socket set	1/4" drive	6
Socket set	3/4" drive w/12 point 1 1/16" to 2"	1
Socket set	Impact – regular 3/8" – 1 1/4"	
Socket set	Impact – Deep well	
Tap and die set	1/4" to 1" national course discs	1
Tap and die set	1/4" to 1" national course fine	1
Tester	Amps, volts, regulators,	1
Tester	Coil condenser	1
Two Wheel Truck	Gas cylinder, holds oxygen and acetylene tanks	1
Vacuum cleaner	8 gallon, wet or dry	1
Vise	Drill press, 4" jaws	1
Vise	Machinists, 4" jaws, swivel base	1
Vise	Machinists, 5" jaws, stationary base	1
Washer	Parts, equivalent to Graymills Model 300	1
Welder	Arc, equivalent to Lincoln 225 Amp	1
Welder	Oxy-acetylene, single stage w/attachments	1
Welder	Arc AC-DC type 250 amp.	1
Welder	MIG	1
Wrench kit	Impact, 1/2" square drive,	1
Anvil stand & hardie		1
Bearing puller	Inside/outside, hammer type	1
Chain	Log, 14'	2
Clamp	Welding, assorted sizes & styles	12
Clamp	Bar, 6' opening	4
Compressor	Piston ring, 3" to 6" cylinder	1
Compressor	Valve spring, 0" - 12" jaw opening	1
Cutter	Bolt, 36" and 18" or 24"	2
Drill bit set	Auger bit sets, 1/4" to 1", 2@speedbor bit sets, 1/4" to 2", 2 expansion auger bits and assortment count sink bits	1
Drill gauge	1/16" to 1/2" for No. 1 to 60	2
Drill bit	Blacksmith Drills (Bits), 1/2" shank 9/16 – 1 1/2"	1
Drill sharpener attachment	Fit bench grinder	1
Face shield	Clear	1 per student
First aid kit	Eye Wash, burn, and abrasion kit	2
Gloves	Welding	10 pr
Goggles	Acetylene, welding	6

Goggles	Clear safety	1 per student
Cabinet	Eye-glass storage, with sterilizer	1
Hearing Protectors		1 per student
Grease gun	Flexible hose	1
Gauge	Belt tension for fan belt	1
Gauge	Compression, 0-300 lbs.	1
Gauge	Tire, Wet-Type	1
Hammer	Chipping w/brush	10
Helmet	Arc welding	1 per student
Hone	Cylinder, for 1" to 3" cylinders	1
Hydrometer	Antifreeze and Battery	1
Masonry drill set	3/16" to 3/4"	1
Respirator	Dust	1 per student
Respirator	Spray painting	6
Shovel	1 each - square point, round point and grain	3
Speed indicator	0-5000 rev.	1
Stand	Jack, 5 ton capacity	3pr
Tester	Radiator pressure tester	1
Trouble light	3 wire, 25'	2
Vise	Woodworkers	2
Wrench set	Adjustable, crescent type, 1 each 6" - 14"	5
Wrench set	Combination, 3/8" to 1 1/4"	1
Wrench set	Combination, 1 5/16" to 2"	1
Wrench set	Ignition, w/case	1
Wrench	Torque, 1 each 0-150 ft. lbs. And 0-200 in. lbs.	2
Screwdriver	Misc. regular, Phillips, offset, screw holding, etc.	1
Signs	Safety, color coded, for all power equipment	1 set

Tool Set	Small gas engines to include: 3/8", 200 in. lb. Torque wrench Flywheel wrench & holder Rotary tachometer Breaker point spring compressor Round wire gauges 1/4" - 1/2" nut drivers Flat feeler gauges (regular length) Flat feeler gauges (long) Needle nose pliers Screwdrivers, stubby flat & Phillips Spark tester Valve spring compressor Flywheel puller Piston ring compressor Piston ring expander Micrometer Inside micrometer Cylinder Hone Ring groove cleaner Magnetic key inserter Ridge reamer .010 Brass feeler gauge Valve lapping tool Valve refacer	2-6**
Test engine(s)*	Model 80000 or 90000 Briggs & Stratton	4/**
Small engine stands*		1/engine
Dust Vacuum	For power machines	1
Cordless Tool Kit	Drill, Saw, & Flashlight	1
Engine Diagnostic Tool	Gas & Diesel Engine	1

\*\* If the Small Engine Course is taught, one test engine and a small engine tool set needs to be provided for each two students.

## AGRICULTURAL EDUCATION

### AGRISCIENCE CAREER MAJOR OR AGRI-BIOLOGY

#### Classroom Recommendations:

#### EQUIPMENT LIST

ITEM	ITEM DESCRIPTION	QUANTITY
Dissection Kit	Standard Kit Based on Use	15-20
Microscope	Microscope Computer Compatible	5
Glass Lab Equipment	Beakers, Test tubes, etc.	
Incubator	Standard Classroom Size	1
Classroom Models	Cells, Dry Mounts, Specimens, Etc	
Computers	Internet Access w/CD Rom	15
Smart Board	Standard Size	1
PSCF	Printer, Copier, Fax, Scanner	1
Mobile Sink Unit		1
Mobile Storage Cabinet		1
Heavy Duty Lab Work Benches	Dual Partner	15
Mobile Demo Bench w/mirror		1
Micro Scope Video Camera		1
Stereo Microscope		1
Digital Camera		1
pH Meter		1
Testing Kits	Soil, Water, etc.	1
Hot Plate	Research Type	5
Electronic Balance		1
Personal Protective Lab Equipment	Glasses, Aprons, Etc.	31
Refrigerator		1
Microwave		1
Thermometers	Research Design	10
Calculators	Scientific	Class Set
Eye Wash Station		1

## AGRICULTURAL EDUCATION

### FORESTRY/NATURAL RESOURCES CAREER MAJOR

#### EQUIPMENT LIST

ITEM	ITEM DESCRIPTION	QUANTITY
Altimeter	0-6,000 Ft.	1
Auger	Soils	3
Blower*	Mist w/dust attach	1
Caliper	Tree	1
Carrier	Timber	2
Chain saw	Gasoline 16"	4
Chain saw	gasoline 26"	2
Chains	Log 1/2" or 3/8" x 12' triple B strength w/grab & slip hook	2
Chipper*	Wood	1
Climber	Tree	2pr
Compass	Foresters	5
Cutter	Brush, heavy duty 1 1/2" cut	2
Digger*	Power 3HP w/2" & 6" auger	1
Fire finder*	Osborne	1
Glasses*	Fields 7 x 35	1
Grindstone	Power, slow speed	1
Guns	Tree marking	2
Hatchet	Broad 4 1/2"	1-4
Heater*	Salamander	1
Hook	Cant, 8 1/2" hook	4
Injector	Tree killing	1
Jack	Hi-Jack	2
Kit	Soil testing	2
Kit	PH	6
Knife	Grafting	10
Level	Abney	2

Level*	Dumpy, w/tripods & rods	3
Mower	Big Wheel, rotary 3.31	1
Peavy		2
Prism	Wedge	20
Pruner	Point cut	2
Pruner	Pole & saw unit	4
Pump	5 gal. Pack	6
Rake	Fire	10
Rake	Landscape	6
Rangefinder*	Field	1
Rod	Leveling, fiberglass in 10ths, 13'	2
Rule	Squarehead log	2
Saw	Reciprocal	1
Saw	Bo	4
Saw	Pruning 24"	10
Scale	Laboratory, balance	1
Shear	Hedge	2
Shear	Pruning	6
Sprayer	Forest gun	1
Sprayer	Knapsack	1
Table	Plane	5
Tape	Woven metallic 100'	2
Tape	Tree	1
Tape	Loggers, scaling	5
Tong	Skidding 7/8"	1
Tool	Grafting	4
Transit*	Contractors, tripod and compass	1
Trencher*	Flail, 4HP	1
Trimmer	Tree, heavy duty 1 1/2" cut	2

Vest	Safety	20
Wedge	Plastic or aluminum	4
Wedge	Steel, splitting	2
Bar	Tree planting	4
Borer	Increment	1
Clinometer		1
Hats	Hard	1 per student
Hat	Hard with goggles & ear protection	4
Guard	Shin	6
Chaps	Chain Saw	4
Axe	Single Bit	6
Axe	Pulaski	1
Biltmore Stick	Universal Use	15

**AGRICULTURAL EDUCATION  
HORTICULTURE CAREER MAJOR  
EQUIPMENT LIST**

ITEM	ITEM DESCRIPTION	QUANTITY
Aerator	Spike and power disc spiker	1
Breaker	Water	4
Cart	Carrying, rolled edge box	1
Clipper	Hedge, gas, 18"	2
Compressor	Air, 5HP portable	1
Cup cutter	For golf green	1
Cutter	Paper, 18" x 18" table model	1
Drawing board	Set, t-squares, triangles, architect scale, compass, templates, etc.	18
Drill	3/8" electric and H.S. Bits (1/64" - 3/8"	1
Edger-Trimmer	12 1/2" cut, 3.5 HP	1
Gas mask	P.P.G.	2
Grinder	Bench, 1/2HP, 7" x 1" wheels	1
Heat cable	50' section, lead coated for propagating benches (Thermostat Attached)	1
Injector	Fertilizer	1
Injector*	Equivalent to Smith model R3	1
Mat	Propagating 22" x 80"	4
Meter	Soil pH meter equivalent to Bridge soil tester	1
Microscope	10x laboratory model	2
Misting system	Propagation (packaged)	1
Mower	Power reel	1

Mower*	Power greens	1
Mower	Power rotary, 3 1/2"-4HP, HD	1-2
Nozzle	Fogging	2
Respirator	Equivalent to G-58 Agri-Spray Respirator	2
Rotary tiller	7hp, 12-26" widths, rear tine	1
Saw	18" power chain	1
Saw	Tree pruning (26" curved blades)	6
Scale	Laboratory	1
Seeder	Broadcast	1
Seeder	Power Seeder for turf	1
Soil testing kit		1
Sprayer	Manual pump, 3 gal. stainless steel	3
Sprayer*	Power, 20 gal. tank, constant pressure delivery, 3HP gasoline engine	1
Sweeper*	Lawn, equivalent to Springfield heavy duty	1
Thatcher	Lawn, 10HP, 21" cutting width	1
Time clock	Day-night control (24 hour)	1
Transit*	Surveyor's, tripod & rods	1
Trimmer	Special combination tree and pole saw w/blades	2
Wheelbarrow	General purpose, steel/plastic	4
Wrench set	Pipe 12", 18", & 24"	2
Vacuum*	30" nose, 5HP	1
Cart	Flat	1
Chipper Shredder	5HP	1

Cart	Nursery	1
Digger*	Power, portable, 1 man	1
Kit	Small engine zim set	1
Plumbing kit	10", 14", 18" pipe wrenches; ratchet; 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2" dies; pipe cutter; vise; reamer; and propane torch set	1
Ladder	Tree, sectional, 30'	3
Ladder	Step, 8'	1
Lifter	Sod	3
Roller	Equivalent to dunham water weight, 9H	1
Register*	Cash	1
Socket	Set 1/2" drive, 12 pt., 3/8" - 1 1/4"	2
Table*	Mechanical drawing, 24"W x 64"L x 34"H., 2 24" x 24", adjustable tops (0°-30°) Table top 16 3/8" x 24", 6 drawer cabinet, each drawer lockable	10
Thermostat	Heating cable	1
Timer	Day-Night	1
Timer	24hr	1
Trimmer	Gas/Electric powered, 16" cut	1
Valve	Solenoid water, 1/2"	1
Wrench set	Open end, 1/4" - 1"	2
Wrench	Torque, 0-150 ft. lbs. and 0-200 in. lbs.	2
Wrench set	Box-end, 3/8" - 1"	2
Wrench set	Combination, 3/8" - 1"	2
Wrench set	Adjustable, 7" - 12"	4

Case*	Display	1
Cloth	Shade, 500 yards	1
Cultivator	Hand, 4 tine	1
Generator*	C02 and controls package	2
Strainer	Water line	6
Shovel	Round point	10
Shovel	Square point	10
Spade	Balling & root	4
Weed-eater	String & blade	2
Blower	Leaf	1
Blower (mist)	Atomizer	1
Gloves	Rubber	2pr
Suit	Spray	1
Goggles	Safety chemical	6
Respirator	Chemical Dust	2
Cylinders	Graduated	2
Cups/spoons	Measuring (assorted)	1 set
Cutter	Verticutter (sod)	1
Rakes	Leaf	5
Rakes	Garden	5
Hose	Garden-50'	6
Seeder	One-row plate	1
Grinder	Portable	1
Planter	Bulb (long)	2
Planter	Bulb (short)	2
Pik machine	Electric/Hand	1

Gun	Hot glue	10
Cleaner	Steam, equivalent to Citation Model 2525 and/or pressure washer, equivalent to Citation Model Stinger I	1
Welder	Arc, AC-DC type, 250 amp-/Plastic/Mig	1
Cabinet	Eye-glass storage, with sterilizer	1
Pruner	Hand	12
Floral shears	Hand	12
Scissors	Hand	12
Knives	Grafting, budding	12
Trash can	30 gallon	4
Shovel	Grain	2
Cabinet	Pesticide storage, lockable	1
Hoe	Garden	12
Dibble Board		1
Former	Sheet metal	1
Tractor*	With appropriate implements	1
Transplanter*	One or two row	1
Wire cutters		12
Hammers	Framing/Claw	12
Saws	Table/Circular/radial arm	1
Levels	Carpenter	12
Squares	Carpenter	12
Sod Cutter	Automatic gas/diesel	1
Tree Space	Hydraulic	1 optional
Commercial mower	Riding/walk behind	1
Saw	Power Cut-off	1

Portable Drawing table		25
Floral Cooler	Walk in or display type	1
Floral Storage Cabinets		1
Manure Fork Mulch		1
Ball Carrier for Balled/Burlapped		1
Safety Belt		1
Utility Trailer		1
Greenhouse Alarm System		1
Generator backup		1
General Purpose Sink		1
Cut Flower Buckets		1
Underwater Stem Cutter		1
Portable Fertilizer Injector	Equipped with Cart for outdoor use	1
Hydroponics System	Capacity based on use	1
Germination Mat	Standard Size	1
Software	Landscape Design/Arch.	1
Laptop	Wireless Internet Connection	1
Digital Camera	5 Mega Pixels or Better	1

**AGRICULTURAL EDUCATION**  
**PRODUCTION AGRICULTURE CAREER MAJOR**  
**EQUIPMENT LIST**

**Farm Management**

<b>ITEM</b>	<b>ITEM DESCRIPTION</b>	<b>QUANTITY</b>
Calculator	With readout and tape	1
Calculator	Pocket	Class Set
Chain	Land measuring	1
Level	Land	1
Watch*	Stop	1
Wheel*	Land measuring	1
GPS Hand Held	Classroom Model	5

**Crops**

<b>ITEM</b>	<b>ITEM DESCRIPTION</b>	<b>QUANTITY</b>
Germinator*	Seed	1
Kit	Seed and weed identification	5
Moisture meter*	Grain	1
Probe*	Grain sample	2
Probe, auger, tube	Soil	5
Scale*	Hanging Spring	1
Kit	Insect Identification	1

## **Livestock**

<b>ITEM</b>	<b>ITEM DESCRIPTION</b>	<b>QUANTITY</b>
Clipper	Equivalent to Oster MDL A-5	1
Shear	Equivalent to Sunbeam Shear-Master with 2 ½" - 3" head	1
Table*	Sheep trimming	1
Chute*	Blocking chute	1
Chute*	Blocking table	1
Chute*	Portable livestock holding	1
Corral*	Portable	1
Dehorner	Livestock	1
Dehorner	Scoop, conventional	1
Dehorner	Scoop, electric	1
Elastrator	Livestock	1
Emasculatome (clamps)		2
Emasculator	Livestock	1
Gun	Balling, with attachments	2
Tack Box for each species		Optional
Stock Trainer		Optional
Pig Catch		Optional
Farrowing Crate		Optional
Heat Lamps		Optional
Iron*	Branding, hot & cold	1
Kit	Artificial insemination	1
Needle	Vaccination	4
Notcher	Ear	1
Scale*	Portable livestock-small sheep/hog/cattle	2
Nippers*	Hoof	1

Sprayer	Pressure, 3 gallon	1
Tank*	Semen	1
Tattoo	4 digit, revolving head 3/8"	1
Tool	Ear tagging, tagmatic	2 types
Winch*	Calf pulling	1
Grinder*	Hoof	1
Laboratory*	Animal (barn)	1
Implant gun		1
Model(s)*	Reproductive tract	1
Model(s)*	Complete animal	1

### **Agricultural Mechanics Laboratory**

Anvil stand & hardie		1
Bearing puller	Inside/outside, hammer type	1
Chain	Log, 14'	2
Compressor	Piston ring, 3" to 6" cylinder	1
Compressor	Valve spring, 0" to 12" jaw opening	1
Crow kit*	Electric kit model 100-G	1
Cutter	Bolt, 36" and 18" or 24"	2
Drill sharpener attachment	Fit bench grinder	1
Sharpener	Chain saw	1
Face shield	Clear	1 per student
First aid kit		1
Gloves	Welding	6 pr
Goggles	Acetylene, welding	6
Goggles	Clear safety	1 per student
Grease gun	Flexible hose	1

Gauge	Belt tension for fan belt	1
Gauge	Compression, 0-300 lbs.	1
Gauge	Spark plug	2
Gauge	Tire, wet type	1
Helmet	Arc welding	1 per student
Hone	Cylinder, for 1" to 3"	
Wrench kit	Impact, 1/2" square drive, equiv. to Black & Decker #2222	1
Masonry drill set	3/16" to 3/4"	1
Respirator	Spray painting	6
Shovel	1 each-square point, round point, grain	3
Stand	Jack, 5-ton capacity	3pr
Vise	Woodworkers	2
Wheel dresser	Grinding	1
Wrench set	Adjustable, crescent type, 1 each, 6" - 14"	5
Wrench set	Combination, 3/8" to 1 1/4"	3
Wrench set	Combination, 1 5/16" to 2"	1
Wrench set	Ignition, w/case	1
Wrench	Torque, 1 each 0-150 ft. lbs. And 0-200 in. lbs.	2
Anvil	100 lbs.	1
Battery service kit	Special tools and charger	1
Bender*	Metal, equivalent to Hossfeld No. 1	1
Bushing driver set	Assorted sizes	1
Cleaner	Steam, equivalent to Citation Model 2525 and/or pressure washer, equivalent to Citation Model Stinger 1	1

Compressor	Air, two stage 3 to 5 HP, 60-80 gal tank	1
Drill bit	1/16" to 3/4", twist set	2
Drill bit*	13/16" to 1 1/2" twist set	1
Drill	Portable, electric, 1/2"HD, double insulation variable speed	2
Drill	Portable, electric, 3/8"HD	3-4
Drill press	Floor, 3/4HP, 15" throat with vise	1
Grinder	Bench, 1/2HP, 7" x 1" wheels	1
Grinder*	Pedestal, 2HP, 12" x 2" wheels	1
Grinder	Portable, Electric 5" x 3/4" wheels	2
Hacksaw	Power, Band Type, 2HP	1
Hoist	Chain, 2-ton capacity	1
Hone	Cylinder, for 3" to 6" cylinders	1
Jack	Floor, 2-ton capacity	1
Mitre box	Metal w/saw	1
Paint spray set	Gun, cup, regulator, hose valve, etc.	1
Plumbing kit	10", 14", 18" pipe wrenches; ratchet; 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2" dies; pipe cutter; vise; reamer; and propane torch set	1
Puller	Gear set, wheel and gear	1
Sander	Portable disc, 7"HD	1
Saw	Portable Electric, 7"HD	2
Saw	Sabre, super duty	1
Saw	Tilting arbor, table, 5HP 12" to 14" blade	1
Socket set	1/2" drive, 12 point, 3/8" to 1 1/4" deep socket and reg. Socket	2

Socket set	3/8" drive, reg. & deep socket	1
Socket set	1/4" drive	1
Socket set	3/4" drive w/12 pt. 1 1/16" to 2"	1
Tap and die set	1/4" to 1" national course	1
Tap and die set	1/4" to 1" national fine	1
Tester	Amps, volts, regulators, equip. marquette tester	1
Tester	Coil condenser	1
Tester	Magneto coil condenser	1
Truck	Gas cylinder, holds oxygen and acetylene tanks	1
Vacuum cleaner	8 gallon, wet or dry	1
Vise	Drill press, 4" jaws	1
Vise	Machinists, 4" jaw, swivel base	1
Vise	Machinists, 5" jaw, stationary base	1
Washer	Parts, Equiv. to Graymills Model 300	1
Welder	Arc, Equiv. to Lincoln 225 amp.	6
Welder	Oxy-acetylene, single stage with attachments	1
Welder	AC-DC type - 250 amp.	1
Welder	MIG	1
Welder*	TIG	1

Tool set	Small gas engines to include: 3/8", 200 in. lb. Torque wrench Flywheel wrench & holder Rotary tachometer Breaker point spring compressor Round wire gauges 1/4" - 1/2" nut drivers Flat feeler gauges (regular length) Flat feeler gauges (long) Needle nose pliers Screwdrivers, stubby flat & Phillips Spark tester Valve spring compressor flywheel puller Piston ring compressor Piston ring expander Micrometer Inside micrometer Cylinder Hole Ring groove cleaner Magnetic key inserter Ridge reamer .010 Brass feeler gauge Valve lapping tool Valve refacer	2
Test engine(s)*	Model 80000 or 90000 Briggs & Stratton	2
Small engine stands*		2
Cordless Tool Set	Drill, Saw, & Flashlight	2
Diagnostic Testing	Diesel & Gas Engine	1

## AGRICULTURAL EDUCATION

### AQUACULTURE

#### EQUIPMENT LIST

ITEM	ITEM DESCRIPTION	QUANTITY
Tank minimum 1/600 gal. Or 1/400 gal.		
Aerator		
Biofilter		
Pumps		
Testing kit (water quality kit)		
Grow lights		
Hydroponics trays (system)		
Generator		
Cover Netting System	Match Tank Size	1 Per Tank
Liners for tanks		
Wet suits/rain gear		
Processing tables (stainless steel)		
Sinks (stainless steel)		
Outdoor pond system		
Digital Scale	Weigh Up to 300 lbs	1
Hose	Up to 50'	1
Dip Nets	Standard Size	2 Per Tank
Heater	Tank Heater	1 Per Tank
Air Stones	Standard Size	1 Per Tank
Bio filter Media	Balls, etc	1 Per Tank

## AGRICULTURAL EDUCATION

### SMALL ANIMAL CARE

#### EQUIPMENT LIST

ITEM	ITEM DESCRIPTION	QUANTITY
Aquarium/terraium		10
Cages (bird, hamster, cat, dog)		10
Incubator		1
Transporting cage		1
Grooming supplies		
Feeding/watering equipment		
Refrigerator		1
Shelves		
Oster clippers(7 & 8 equivalent)		
Microscopes		2
Slides		
Rabbit Hutch	Size based on # of rabbits	1
Kindling Box		1 Per Cage
Hamster Cage Supplies	Hamster Ball, Wheel, etc.	1 Set Per Cage
Electric Scale	Weighs Up to 300 lbs	1
Heat Lamp	Standard Size	1
Pet First Aid Kit	Equipped for Various Small Animals	1

# BUSINESS EDUCATION FACILITY GUIDE



# BUSINESS EDUCATION

- OVERVIEW
- GENERAL SPECIFICATIONS
- SAMPLE ROOM LAYOUTS
- RECOMMENDED  
EQUIPMENT LISTS



## Business Education Program Overview

The following information is provided to assist the local high school or locally operated career/technical center in the development of a comprehensive Business Education Program. There are eleven career majors within business education: Administrative Support, Accounting, Business Management, Business Multi Media, Business Technology, Business/Marketing Education, Data Base Management, Finance, Information Processing, Legal Office, and Medical Office. The curriculum will need to change as the industry changes, and all facilities need to be planned with flexibility and versatility in mind. The Program curriculum is aligned with the National Business Education Standards, Kentucky Occupational Skill Standards, and Kentucky Core Content for Assessment.

The facility should reflect the type of curriculum provided. A facility maybe planned to accommodate more than one curriculum (career major area). A Business Education standard classroom and computer lab could be used for a variety of career majors.

Throughout the planning of the facility for Business Education emphasis must always be on creating a place where a variety of activities can occur as students develop work related skills. For more information about the Business Education Program in the high school, please contact the Kentucky Department of Education, Division of Career and Technical Education, 500 Mero Street, 21 St Fl Capital Plaza Tower, Frankfort, KY 40601.

**BUSINESS EDUCATION PROGRAMS shall be provided in accordance with the following table:**

**BUSINESS EDUCATION INSTRUCTIONAL**

Grade Level	Minimum Unit Area (Square Feet)	Unit/Student Ratio
Grades 5&6	800	Per Program
Middle/Junior High	900	Per Program
Computer Lab	1600	Per Program

**Location:** Shielded from noise – producing activities and functions

**Support Spaces:** The Instructional area shall be internally subdivided to provide the following support spaces:

**BUSINESS EDUCATION INSTRUCTIONAL SUPPORT SPACES**

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
High School Lecture/Computer Lab	Teacher Workroom/Coop Office	150	Provide data outlets; lockable file cabinets for confidential student records
All	Storage		Lockable room with shelving for instructional materials

**The Minimum Standards as given by the following table shall be provided in each Business Education Program:**

**MINIMUM BUSINESS EDUCATION INSTRUCTIONAL PROGRAM STANDARDS**

Standard	Minimum	
	Teacher Workroom/Coop Office	Instructional Space
Student Capacity	1	28 Student
Ceiling Height	8' – 8"	8' – 8"
Room Dimension	10' – 0"	22' – 0"
Artificial Illumination	50 Foot candles	50 Foot candles
Chalkboard/Markerboard	N.A.	48 Square feet
Tack board	N.A.	48 Square feet
Finishes	Low Maintenance	Low Maintenance
Storage	See b. 15.2	
Technology	Voice, data and video outlets at (1) teacher station; Data outlet at each student station per KETS standards; Power outlets at each computer and video outlet	Voice, data and video outlets at (1) teacher station; Data outlet at each student station per KETS standards; Additional data outlets for point of sale terminals and other industry equipment; Power outlets at each computer and video outlet
Equipment		
Utilities		
Special Features	Full Length widow(s) between classroom and lab(s)	
Notes:		
(a) Model layouts for program type are available for KDE Division of Career and Technical Education.		

## **BUSINESS EDUCATION DESCRIPTION OF LABS**

### **Level 1 Computer Lab**

#### **SIZE AND CAPACITY**

1600 Sq. ft. with 30 student workstations

#### **GENERAL DESCRIPTION**

Teacher computer with presentation equipment along with student workstations furnished with commercial, professional office/type computer furniture.

Lab of 30 stations with minimum of Level III KETS standard computers (additional RAM). Computers have network components (hard/wireless) that meet coding requirements and have internet access.

Presentation board with peripherals (projector, slate, cameral, DVD/VCR)

Electrical outlets for 30 computer stations are needed with additional outlets for equipment such as scanners, mixer, camera, video, speakers, etc.

1 color ink jet or laser printer, and 2 commercial grade laser printers

Work Table(s) 6' x 3', or 4ft in diameter

1 scanner

1 Digital Camera

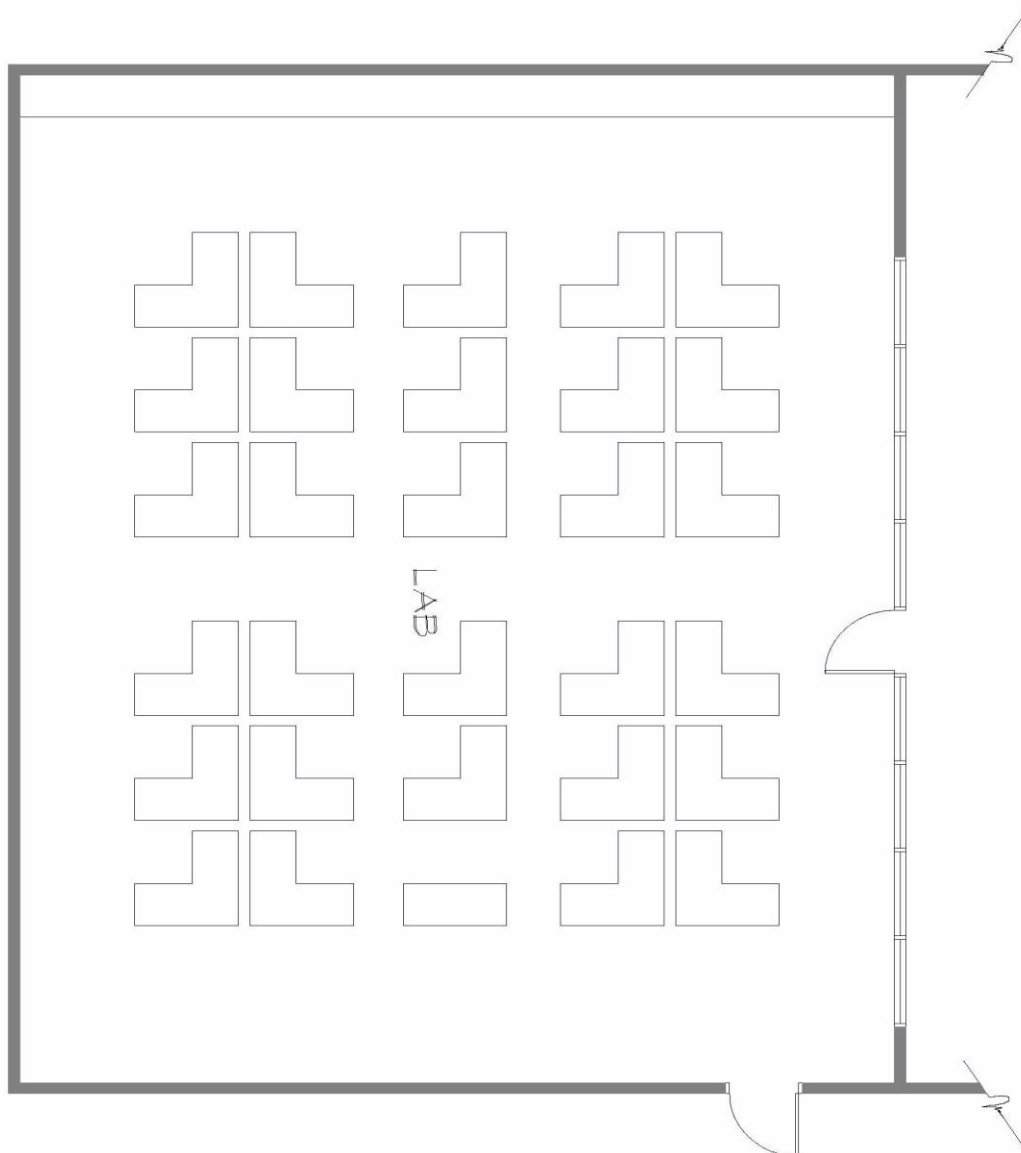
#### **FIXED, BUILT-IN, SEMI-PERMANENT FURNITURE AND EQUIPMENT**

Wall clock, presentation board, cabinets with individual knee holes, 3 adjustable shelves in each bookcase above cabinets

#### **MARKER BOARDS/MAP RAIL/TACKBOARD: 4' X 12' EACH**

#### **SPECIAL CONSIDERATIONS FOR LEVEL 1 LAB**

This lab would be used for the following career Majors: Accounting, Administrative Support, Business Management, Business Technology, Finance, Legal Office, Medical Office.



Business and Office  
Lab. 1

KENTUCKY DEPARTMENT OF EDUCATION  
Division of Career and Technical Education  
Frankfort, Ky 40601  
500 Mero Street 2119 Capital Plaza Tower

PROJECT NO: 2009-031  
DRAWN BY: J. H. H.  
CHECKED BY: J. H. H.  
APPROVED BY: J. H. H.  
PLOT DATE: 7-11-2008  
REVISIONS:



SHEET TITLE  
A-  
SHEET NUMBER  
2 OF 27  
NOT TO SCALE

## **BUSINESS EDUCATION DESCRIPTION OF LABS**

### **Level 2 Computer Lab**

#### **SIZE AND CAPACITY**

1600 Sq. ft. with 30 student workstations

#### **GENERAL DESCRIPTION**

Teacher computer with presentation equipment along with student workstations furnished with commercial, professional office/type computer furniture.

Lab of 30 stations with minimum of Level III KETS standard computers (additional RAM, better video card, firewire connection, CD & DVD burner). Computers have network components (hard/wireless) that meet coding requirements and have internet access.

Electrical outlets for 30 computer stations are needed with additional outlets for equipment such as scanners, mixer, camera, video, speakers, etc.

Presentation board with peripherals (projector, slate, cameral, DVD/VCR)

1 color ink jet or laser printer, and 2 commercial grade laser printers

2 Work Tables 6' x 3', or 4ft in diameter

2 scanners

2-4 Digital Cameras

4 Video Cameras (digital)

2 tripods

Editing equipment (mixer, sound board, etc.)

Minimum of 1 electronic drawing tablet

Large capacity portable external hard drive

Access to multiple operating systems (PC, MAC)

Overhead projector

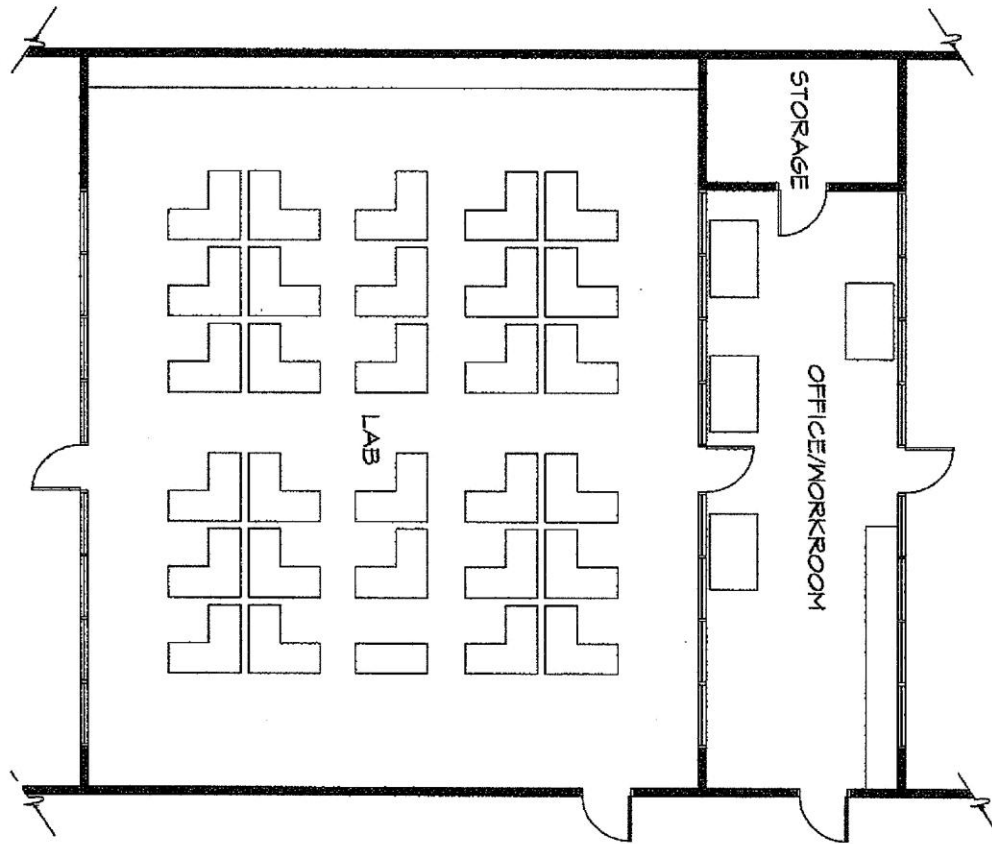
#### **FIXED, BUILT-IN, SEMI-PERMANENT FURNITURE AND EQUIPMENT**

Wall clock, presentation board, cabinets with individual knee holes, 3 adjustable shelves in each bookcase above cabinets

#### **MARKER BOARDS/MAP RAIL/TACKBOARD: 4' X 12' EACH**

#### **SPECIAL CONSIDERATIONS FOR LEVEL 2 LAB**

This lab would be used for the following career Majors: Information Processing, Business Multimedia, and Data Base Management



**BUSINESS AND OFFICE LAB 2**  
**KENTUCKY DEPARTMENT OF EDUCATION**  
 Division of Career and Technical Education  
 Frankfort, Ky 40601  
 626 Marx Street 212 Capital Plaza Tower

PROJECT NO:	11-0004
DRAWN BY:	11-0004
CHECKED BY:	11-0004
APPROVED BY:	11-0004
REVISIONS:	11-0004

3 OF 27  
 NOT TO SCALE

**BUSINESS EDUCATION**  
**CLASSROOM EQUIPMENT LIST**

Number	Item Name	Item Description
1	Presentation Board	Presentation board with peripherals (projector, slate, cameral, DVD/VCR)
1	Teacher Computer	Teacher workstation connected to presentation board
30	Student Tables	Student desks or tables
2	File Cabinets	4-drawer file cabinet with lock
1	File Cabinet	2-drawer file cabinet with lock
2	Work Tables	Any size to fit room
1	Lectern	
1	Clock	Wall Clock
1-2	Marker Boards	4' X 12'
1	Tack Board	4' X 12"
1	Paper Cutter	Paper Cutter with Guard
1	Printer	Monochrome Laser Level II KETS
1	Scanner	Flatbed Scanner
1	Storage Cabinet	72" height, 36" width, 18" depth
1	Television	26" or larger
5	Computers	Student computers, Level II KETS (Add RAM)
10	Calculators	Calculators with basic functions

## **BUSINESS EDUCATION OFFICE**

### **EQUIPMENT LIST**

Number	Item Name	Item Description
1	Telephone	Standard
1	Fax Machine	Plain Paper Fax
1	Computer	Level III KETS (Add RAM)
Per Teacher	Desk/Chair/2drawer file	Office desk, rolling chair, file cabinet
1	Copier	Duplex, Average Volume, Enlarge/reduction
3-4	Filing Cabinets	4-drawer filing cabinets
2-3	Storage Cabinets	72" height, 36" width, 18" depth

# Business Education Equipment List

## Financial Services

The following list of equipment is in addition to the Level 1 computer lab and classroom

Number	Item Name	Item Description
3	Calculators	Calculators, electronic combination display and printing with memory
2	Card File	Card File, 3"x5" or 4"x6" or Rol-a-dex
1-3	Cash Drawers/Box/Bags	Cash drawers/Boxes/Bags
1	Cash Safe/Vault/Lock Bags	Cash Safe/Vault/Lock Bags
1	Journal and Ledger	Journal and Ledger Book
Asst.	Bank Forms	Deposit Tickets, Checks, Cash Tickets, General Ledger Tickets
	Cash	All Denominations of currency and coin
1-2	Stamp pads	Stamp pads, red and black ink
3+ etc.	Stamps	Stamps: date received, paid, cancelled
1	Telephone	Telephone with outside line
1-3 of one	Teller Cage	24" D x 38" H x 60" W (appropriate size cage)
2	File Cabinet	4-drawer cabinet with lock
1	Storage Cabinet	72" height, 36" width, 18" depth
1 dates	Desk calendar	Flat desk calendar to track payment dates
	Software Examples	Spreadsheet such as MS Excel Word processing such as MS Office Word Presentation such as MS PowerPoint Data Base such as MS Access Keyboarding such as Microtype Financial Software such as Quicken or QuickBooks

## **Business Education Equipment List**

### **Administrative Support**

The following list of equipment is in addition to the Level 1 computer lab and classroom.

<b>Number</b>	<b>Item Name</b>	<b>Item Description</b>
1	Typewriter	Basic Electronic Typewriter
1	File Cabinet	4-drawer cabinet with lock
1	Storage Cabinet	72" height, 36" width, 18" depth
	Software Examples	Spreadsheet such as MS Excel Word processing such as MS Office Word Presentation such as MS PowerPoint Data Base such as MS Access Web Design such as Macromedia products Keyboarding such at Microtype Office Simulations such as Allied Technology Corporation

## **Business Education Equipment List**

### **Accounting**

The following list of equipment is in addition to the Level 1 computer lab and classroom.

<b>Number</b>	<b>Item Name</b>	<b>Item Description</b>
1	File Cabinet	4-drawer cabinet with lock
1	Storage Cabinet	72" height, 36" width, 18" depth
	Software Examples	Accounting such as Peachtree, Quicken, or QuickBooks Spreadsheet such as MS Excel Word processing such as MS Office Word Presentation such as MS PowerPoint Data Base such as MS Access Keyboarding such as Microtype

## Business Education Equipment List

### Business Management

The following list of equipment is in addition to the Level 1 computer lab and classroom.

Number	Item Name	Item Description
1	File Cabinet	4-drawer cabinet with lock
1	Storage Cabinet	72" height, 36" width, 18" depth
	Software Examples	Spreadsheet such as MS Excel Accounting such as Peachtree Word processing such as MS Office Word Presentation such as MS PowerPoint Data Base such as MS Access Keyboarding such as Microtype Simulations such as JA Titan, Go Venture Business, GoVenture Personal Finance, JA Personal Finance, Stock Market Game

# Business Education Equipment List

## Business Multimedia

The following list of equipment is in addition to the Level 1 computer lab and classroom.

Number	Item Name	Item Description
1	Typewriter	Basic Electronic Typewriter
1	File Cabinet	4-drawer cabinet with lock
1	Storage Cabinet	72" height, 36" width, 18" depth
	Software Examples	Spreadsheet such as MS Excel Word processing such as MS Word Presentation such as MS PowerPoint Data Base such as MS Access Web Design such as Adobe-Macromedia products, MS products Document Design such as MS Publisher, Printshop Photo Editing such as Adobe products, Corel products Video Editing such as Adobe-Macromedia products, Avid-Pinnacle products, Apple products, Camtasia Drawing software for electronic tablet such as Wacom Multiple Internet browsers such as Internet Explorer, Firefox, Mozilla, Safari

## **Business Education Equipment List**

### **Business Technology**

The following list of equipment is in addition to the Level 1 computer lab and classroom.

<b>Number</b>	<b>Item Name</b>	<b>Item Description</b>
1	Typewriter	Basic Electronic Typewrite
1	File Cabinet	4-drawer cabinet with lock
1	Storage Cabinet	72" height, 36" width, 18" depth
	Software Examples	Spreadsheet such as MS Excel Word processing such as MS Word Presentation such as MS PowerPoint Data Base such as MS Access Document Design such as MS Publisher, Printshop Photo Editing such as Adobe products, Corel products Keyboarding such at Microtype

# ENGINEERING AND TECHNOLOGY FACILITY GUIDE



# ENGINEERING AND TECHNOLOGY EDUCATION

- OVERVIEW
- GENERAL SPECIFICATIONS
- SAMPLE ROOM LAYOUTS
- RECOMMENDED  
EQUIPMENT LISTS



## **Engineering and Technology Overview**

We live in a world of rapidly advancing technological developments. In this technological age, the balance of control and application of new and existing technologies exercised by its members determine many important aspects of society. Technology affects society, but society also affects technology (ITEA, 2000). Society needs informed citizens who can balance and control technology-a populace of creative, critical thinkers, who are able to function collectively in an effective manner to manage their technological resources. Technology has changed the institutions of society. All citizens must understand the complex relationships among technology and the powerful institutions that shape and reflect our society. Students (future citizens) must be innovative, knowledgeable, resourceful, skillful and enterprising, so that they can participate effectively in the process of making prudent decisions about our future.

Engineering and Technology courses are activity-based and interdisciplinary in nature. Drawing content from across the disciplines and from diverse work-based and life-based applications, Engineering and Technology courses provide ongoing opportunities for integration with purposeful activity. Engineering and Technology has the potential to meet the needs of all students, regardless of background or career aspirations. As they learn through experience, students will have opportunities to examine holistically the interactions of technology and people, culture, and the environment. The knowledge and abilities acquired through Engineering and Technology will be applied and integrated across disciplines as students solve real-world problems and acquire a broad range of technological knowledge, rich experience, and useful techniques.

With its focus on inventing, adapting, designing, constructing and evaluating, the Engineering and Technology laboratory is a place where students are encouraged to explore multiple solutions to open-ended problems, take responsibility for personal learning, and develop team-work and management skills (LaPorte & Sanders, 1995). Recognizing the relationship between people and technology, Engineering and Technology is charged with the responsibility of preparing technologically literate persons equipped with the knowledge and skills needed to live and work in a technologically-oriented and dominated society. Our participation in increasingly competitive world markets makes it imperative that all people understand technology and the engineering process that creates and supports it, so that they can function as informed voters, productive workers, and wise consumers of products and devices.

The Program of Studies for Engineering and Technology emphasizes laboratory experiences. Teachers are encouraged to get tools and materials in the hands of students as often as feasible. Students will be researching, designing, building, testing, and modifying various projects in every class. The facilities must be conducive to research and design work, as well as accommodate as large a variety of tools, materials, and processes as possible.

The computer systems for each lab must meet KETS standards and must also meet the requirements provided by the software manufacturers for the purposes intended. The multimedia computers are intended for research and additional instruction.

## **Engineering and Technology**

### **General Specifications**

Each of the courses at both the middle school and high school levels require basically the same facilities. The only difference may be that the middle school could incorporate a modular program. Modular programs are generally turn-key commercial products. The specific facility requirements are readily available from the selected vendor. Normally they require a room similar to what is diagrammed on the attached Modular Lab General layout sheet.

An ideal facility for Engineering and Technology would not limit the materials or processes that could be experienced. It would include a “clean” area for computers and other classroom activities (such as teacher or student presentations) and a “lab” area for activities without regard to dust, odor/fumes, or noise. A single teacher should be able to supervise both the clean area and the lab area simultaneously. Overall, the facilities should be very flexible to accommodate a variety of activities.

The clean area should include:

- An area where the teacher or students could give presentations to the entire class
- Desks/tables that can be arranged into groups
- Computers to be used for research activities and for operating engineering/drawing/data collection and analysis software.

The lab area should include:

- Secure tool storage
- Secure student project storage
- Storage for raw materials, (string, tape, wood scraps, plastic pipes, foam, dowels, and other small items that are very useful. Certainly not to be confused with large, elaborate wood and metal storage racks)
- Work benches that can be arranged as required for the current tasks.
- Tools and equipment that can be moved as necessary (and securely stored when not needed)
- Sufficient space for individuals or groups to work at a table or on the floor
- An outside door if at all possible (preferably an overhead garage door of sufficient size to accommodate the indoor construction of small storage buildings, etc)
- Adequate ventilation so odors/fumes do not pose a problem
- An “engine” or other area where students could work on heavy, dirty, greasy, mechanical devices. An overhead hoist would be helpful.
- An area where welding could be conducted, although at least one welder should be portable enough to use anywhere in the lab.
- Lots of electrical outlets so that arrangement of the room is not dependent upon availability of power
- Adequate lighting
- Dust collection system that does not dictate the placement of machines.
- An outdoor storage/work area would be very helpful. This area should accommodate such items as lawn-mowers, motorcycles, or a car or two.

Engineering and Technology Program Spaces shall be provided in accordance with the following table:

## Engineering and Technology Program Space

Grade Level	Minimum Unit Area (square feet)	Unit/Student Ratio
Elementary	NA	NA
Middle (grades 6-8)	2750	1/150
High	2750 (1 teacher) 4750 (2 teachers)	1/150

**Location:** The classroom will be shielded from the noise, odor, and dust producing activities in the lab. The lab area, however, should be observable from the classroom and vice versa. Both classroom and lab area are recommended to be located on the first floor level.

**Support Spaces:** The minimum program area shall be internally subdivided to provide the following support spaces:

### ENGINEERING AND TECHNOLOGY PROGRAM SPACE

Grade Level	Room Name	Minimum area (sq. feet)	Special Features
Middle School	Modular Lab  (most schools will not have both the Modular Lab <b>and</b> the Engineering Lab.)	1850	Large, open room to be filled with specific furnishing from modular lab vendor. This usually consists of standardized booths with equipment and chairs. Minimum size booths are required. (4'x8'). Each booth will require at least 2 outlets (120 volt, 15 amp) and network wiring (or wireless). This room can have a dropped ceiling with carpeted floor. Dimensions should be no more that twice as long as it is wide.
	Engineering Lab	1650	Large, open room with space for 8 5'x5' work tables and various tools and equipment (most of which will be 120 volt, table top or portable hand tools). Room should be no more that twice as long as it is wide. Tool cabinets should be mounted on the walls. Allow space for raw material storage and project storage. Multiple electrical outlets dropped to each work table with outlets located around the perimeter. Provide hand wash station and sink.

	Classroom	800	Tables, not desks. Network capabilities (or wireless) at each table. Presentation area with in-ceiling projector. Include display case.
	Office	100 sq.ft per teacher	Shielded from noise, odor, and dust of lab area, yet allow unobstructed view of lab and classroom with easy access to both. Network capabilities with telephone.
High School	Classroom	1000	Tables, not desks. Network capabilities at each table. Presentation area with in-ceiling projector. Include display case.
	Office	100 sq.ft per teacher	Shielded from noise, odor, and dust of lab area, yet allow unobstructed view of lab and classroom with easy access to both. Network capabilities with telephone.
	Engineering Lab	1650	Large, open room with space for 8 5'x5' work tables and various tools and equipment (most of which will be 120 volt, table top or portable hand tools). Include drops for 220 volt for some machinery. Room should be no more that twice as long as it is wide. Tool cabinets should be mounted on the walls. Allow space for raw material storage and project storage. Multiple electrical outlets dropped to each work table with outlets located around the perimeter. Provide hand wash station and sink. Provide adequate protection and ventilation for welding. Also provide location for paint spray. Provide exterior walk through door and minimum 8' by 8' overhead door. Floor drain required near garage door area.

The Minimum Standards as given by the following table shall be provided in each Engineering and Technology program space:

### MINIMUM ENGINEERING AND TECHNOLOGY INSTRUCTIONAL STANDARDS

Standard	Minimum	
	Support Space (classroom)	Laboratory
Student Capacity	Arrange = 28 students (28 computer work stations)	Average = 28 students; Middle School Modular Lab: (14-16) two-student workstations; Engineering Lab: work stations as required by program
Ceiling Height	8' - 8"	10' - 0"
Room Dimension	8' - 0"	22' - 0"
Artificial Illumination	50 foot candles	Two – level with 50 foot candles maximum; reduce veiling effects on CRT screens
Markerboard	48 Square feet.	48 Square feet
Tack board	48 Square Feet in the classroom area, with 48 LF of track strip distributed as required	48 Square feet in the classroom area, with 48 LF of tack strip distributed as required
Finishes	Low maintenance	Low maintenance
Storage	Storage space for teaching materials, projects	Storage space for teaching materials, projects
Technology	Voice, data and video outlets at (1) teacher station; Data outlets at each student station; Power outlets at each computer and video outlet	
Equipment	See attached list	See attached list
Utilities	Program Space	Program Space
Special Features	Program Space	Program Space

## **Sample Floor Plans**

Four different floor plans have been included to aid design of new facilities. They include:

- Middle School Modular Lab
- Middle School Engineering Lab
- High School Engineering Lab 1
- High School Engineering Lab 2

Each plan could prove helpful in communicating some aspect of facilities design, but will obviously require extensive modification and elaboration to fit the local requirements. These plans serve only as a starting point for discussion and design.

## Engineering and Technology

### Tools and Equipment

The lab should be equipped with tools and equipment that allow the teacher to select a wide variety of projects. Basically, the student should be able to cut, form, and join just about any material they need for their project. The engineering lab should not be confused with a vocational lab or an Industrial Arts lab. The engineering lab does not need large, expensive, industrial equipment. In many cases, table top equipment will work just fine. The following is a list of tools and equipment that would be helpful in a well-equipped Engineering and Technology lab for 28 students.

ITEM	ITEM DESCRIPTION	QUANTITY
Wooden Top Work Tables	5' x 5' with vices	8
Metal Top Work Benches	With Vices	3
Drill Presses	Small	2
Sanders	Belt/Disc	2
Saws	Band	2
Saws	Scroll	4
Saw	Table	1
Planer	Table Top Surface	1
Jointer	Table Top 4" to 6"	1
Saw	Power Compound Miter	1
Welder	10 volt wire	1
Saws	Hack	4
Saw	Metal Abrasive Cut Off	1
Lathes	Wood	1 or 2
Hand Drills	Various bits and hole saws	4
Belt Sanders	3" x 21" portable	2
Sanders	Vibrator	3
Tools	Dremel	2
Routers	Various bits	2
Saws	Jig	2
Saw	Portable circular	1
Saw	Reciprocating (Sawsall) with various blades	1
Chisels, Squares & Hammers	Assortment	

Wrenches, Sockets & Pliers	Assortment	
Guns	Hot Glue	6
Scissors		12
Knives	Utility	4
Rulers/Tape Measures		8
Saws	Hand	6
Stopwatches		2
Scales	Sensitive Digital	2
Multi-meters	Digital	6
Irons	Pencil-Type Soldering	8

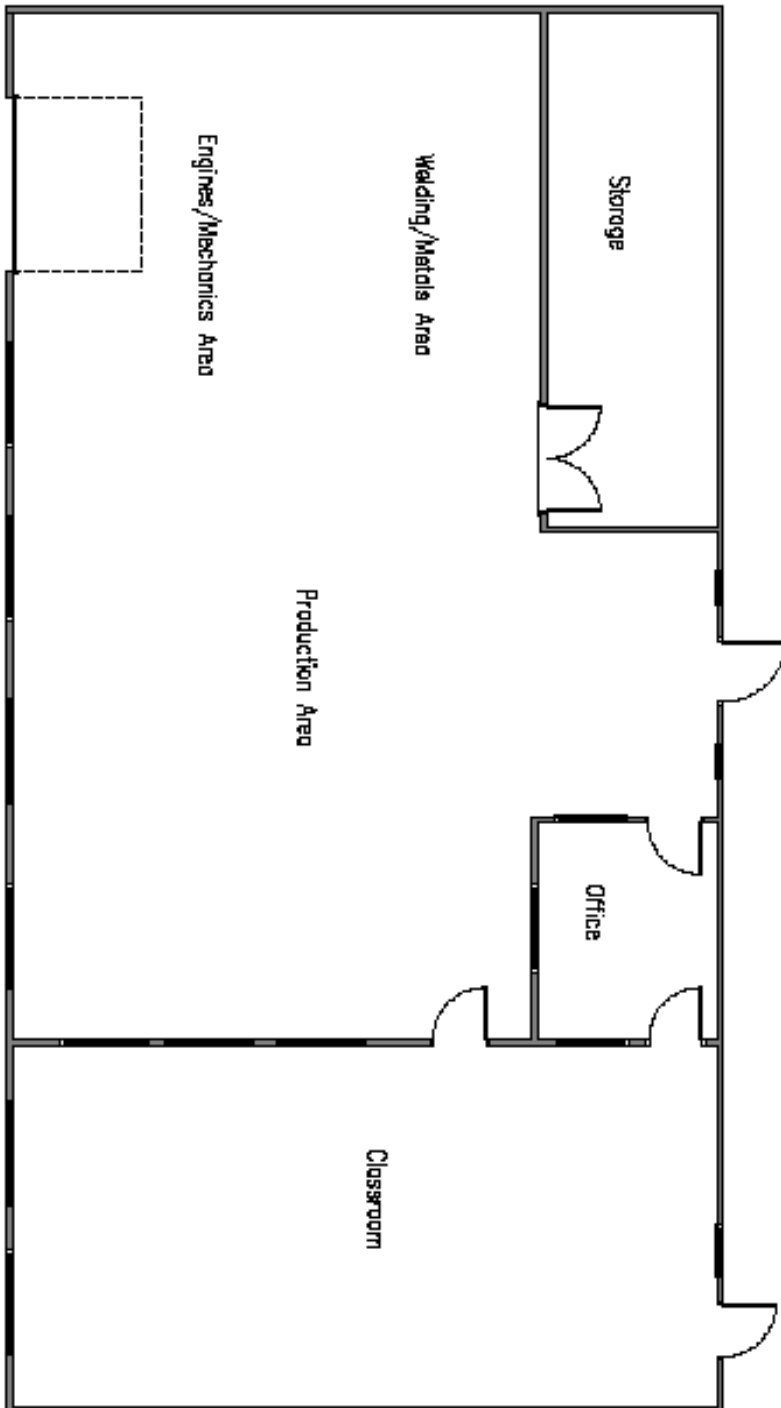
Some of the courses listed in the Engineering Pathway may require some specialized equipment. The equipment list is adjusted occasionally as curriculum is revised and new software becomes available. Since not all schools will be teaching all of the courses in the Engineering Pathway, it is advisable to consult the school officials to determine the list of courses. The most current list of equipment for each course is available from the Project Lead the Way organization ([www.pltw.org](http://www.pltw.org))

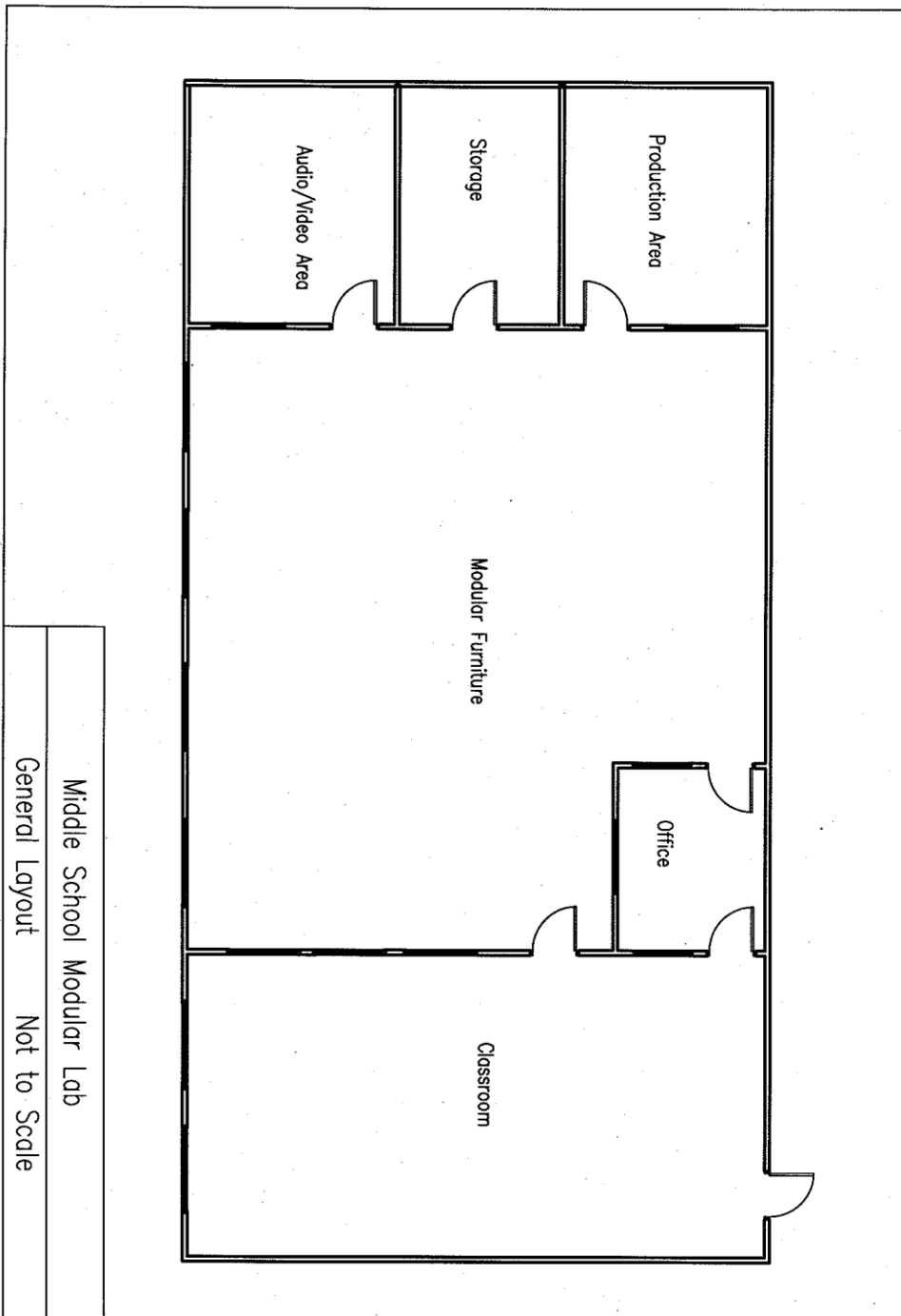
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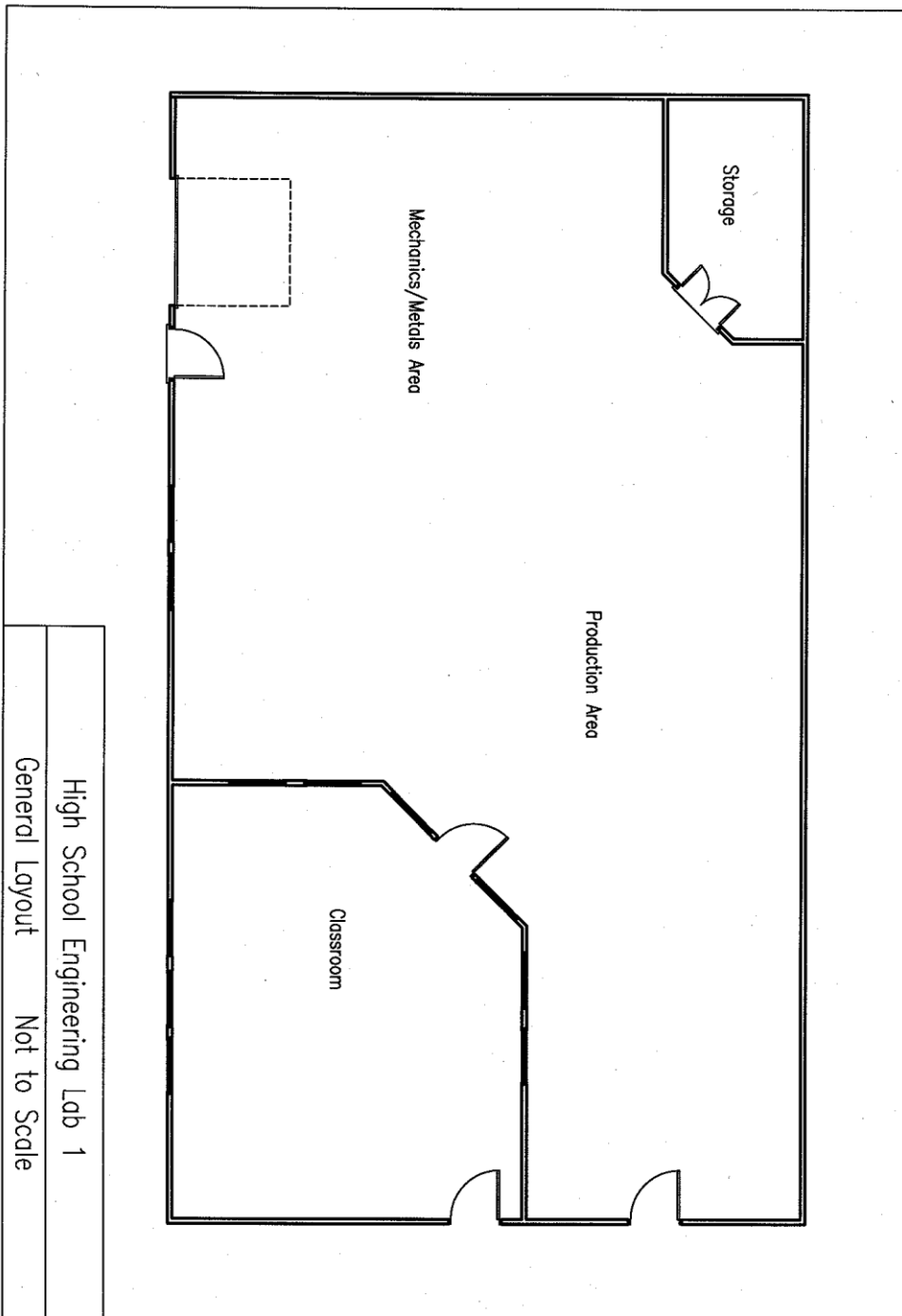
**MIDDLE SCHOOL ENGINEERING LAB**  
**KENTUCKY DEPARTMENT OF EDUCATION**  
 Division of Career and Technical Education  
 201 West Main Street, 4th Floor, Frankfort, KY 40601  
 PHONE: 502-596-3000

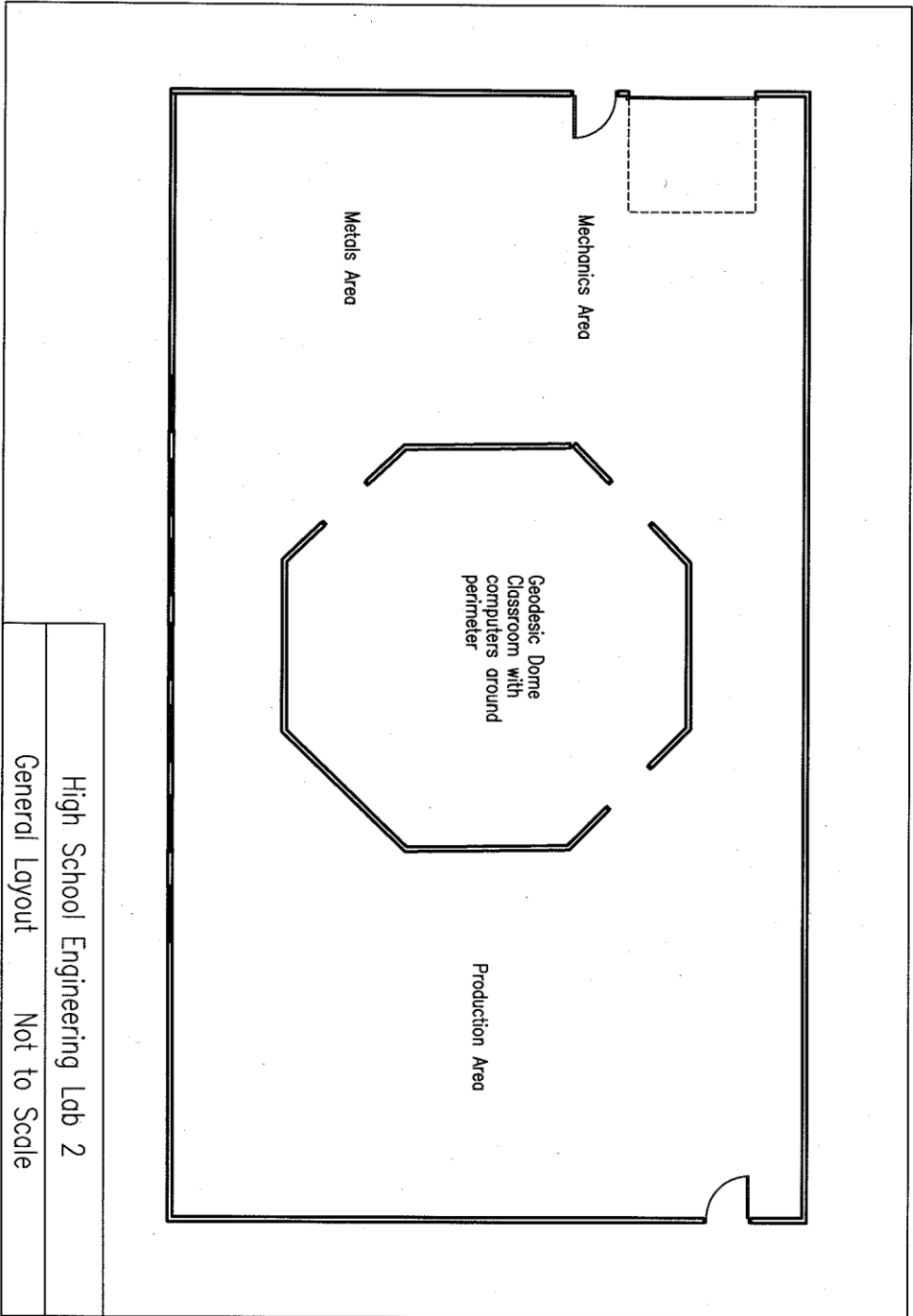


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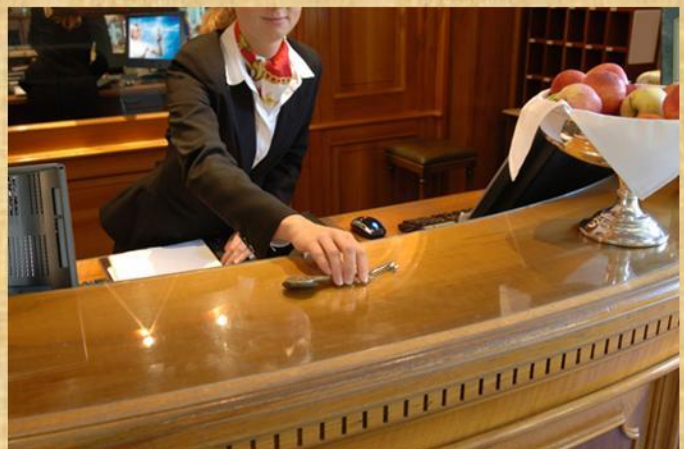


# FAMILY AND CONSUMER SCIENCES FACILITY GUIDE



# FAMILY AND CONSUMER SCIENCES EDUCATION

- **OVERVIEW**
- **GENERAL SPECIFICATIONS**
- **SAMPLE ROOM LAYOUTS**
- **RECOMMENDED EQUIPMENT LISTS**



## **OVERVIEW**

The material in this section has been prepared to give assistance in planning space and equipment for a Family and Consumer Sciences Education facility. It is designed to aid school administrators, teachers, boards of education, site based decision making councils, advisory committees and architects who share responsibility in planning and equipping the facility for the Family and Consumer Sciences program.

Family and Consumer Sciences has changed over the years to better meet the needs of today's society and to prepare students for the global workforce. Careers are a major part of the Family and Consumer Sciences programs, with the emphasis on Family and Consumer Sciences career majors of Child Development, Consumer and Family Management, Culinary and Food Services, Family and Consumer Sciences Education, Fashion and Interior Design and Hospitality Services.

The facilities and equipment lists are recommended. The "traditional" department is no longer a requirement. Facilities should meet the requirements for the career major(s) offered in the particular school for which facilities are being built/renovated. Special attention should be given to the number of students expected to use the lab space. Safety is of utmost importance and labs should not have more students enrolled than the room is designed.

For additional information, contact the Division of Career and Technical Education.

# **GENERAL SPECIFICATIONS FOR PLANNING FAMILY AND CONSUMER SCIENCES EDUCATION FACILITIES IN KENTUCKY**

## **Program Area Personnel and the Planning Process**

Because of their knowledge and understanding of the curricula, objectives, and industry, the Family and Consumer Sciences educational teacher(s) should be involved in planning. The teacher should be permitted to explain space needs for classroom(s), child development laboratory, fashion and interior laboratory, hospitality and culinary lab, storage, facilities, and other space requirements that may be relevant to the local situation.

State staff members and teacher educators need to be involved because of their experiences as teachers, supervisors or teacher educators. They have knowledge of state regulations and have seen many different facilities throughout the state.

## **Location of Space for Family and Consumer Sciences Facilities**

Easy accessibility is important in the location of the Family and Consumer Sciences facility. The diversity of groups served makes it desirable to locate the facility on the ground floor that will permit access for deliveries and equipment.

This will permit convenient delivery of laboratory supplies and installation of large equipment.

The location should also provide convenient entrance for night classes without having to open the main entrance to the building. It should provide accessibility for the physically challenged and convenient entry for persons from the community utilizing the facility.

Locating the classrooms, laboratory, and office adjacent to each other gives unity to the program and allows for better communication among teachers, sharing of equipment and classrooms.

## **Family and Consumer Sciences Curricula**

Family and Consumer Sciences education consists of a broad spectrum of courses that cover the major aspects of the Family and Consumer Sciences industry. There are currently six (6) career majors in Family and Consumer Sciences: Family and Consumer Sciences Education, Child Development, Culinary and Food Services, Fashion and Interior Design, Hospitality Services, Consumer and Family Management. The curriculum will need to change as the industry changes, and all facilities need to be planned with the flexibility and versatility in mind.

The facility should reflect the type of curricula provided. A facility may be planned to accommodate more than one curriculum or career major. A laboratory may be used by more than one career major if the lab is large enough to accommodate both majors. The need for up to date technology in each program is essential.

**b.12.) Family and Consumer Science Education Programs shall be provided in accordance with the following table:**

**FAMILY AND CONSUMER SCIENCES EDUCATION INSTRUCTIONAL AREA**

Grade Level	Minimum Unit Area (Square Feet)	Unit/Student Ratio
Elementary	N.A.	N.A.
Middle/Junior High	900	One per program
High	One teacher: 2, 700	Per Program
	Two teacher: 3, 350	
	Three teachers: 4,000	

**b.12.1) Location:** Shielded from noise-producing activities and functions.

**b.12.2) Support Spaces:** The Instructional Area shall be internally subdivided to provide the following support spaces:

**FAMILY AND CONSUMER SCIENCES EDUCATION SUPPORT SPACES**

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	N.A.	N.A.	N.A.
High	Office	One teacher: 150	Lockable file cabinets
		Two teacher: 200	
		Three teacher: 250	
	Storage	150	Cabinets and shelving for the storage of books, instructional materials, audio-visual tapes and equipment, etc.

**b.12.3) The Minimum Standards** as given by the following table shall be provided in each Family and Consumer Sciences Education Instructional Unit:

**MINIMUM FAMILY AND CONSUMER SCIENCES EDUCATION PROGRAM STANDARDS**

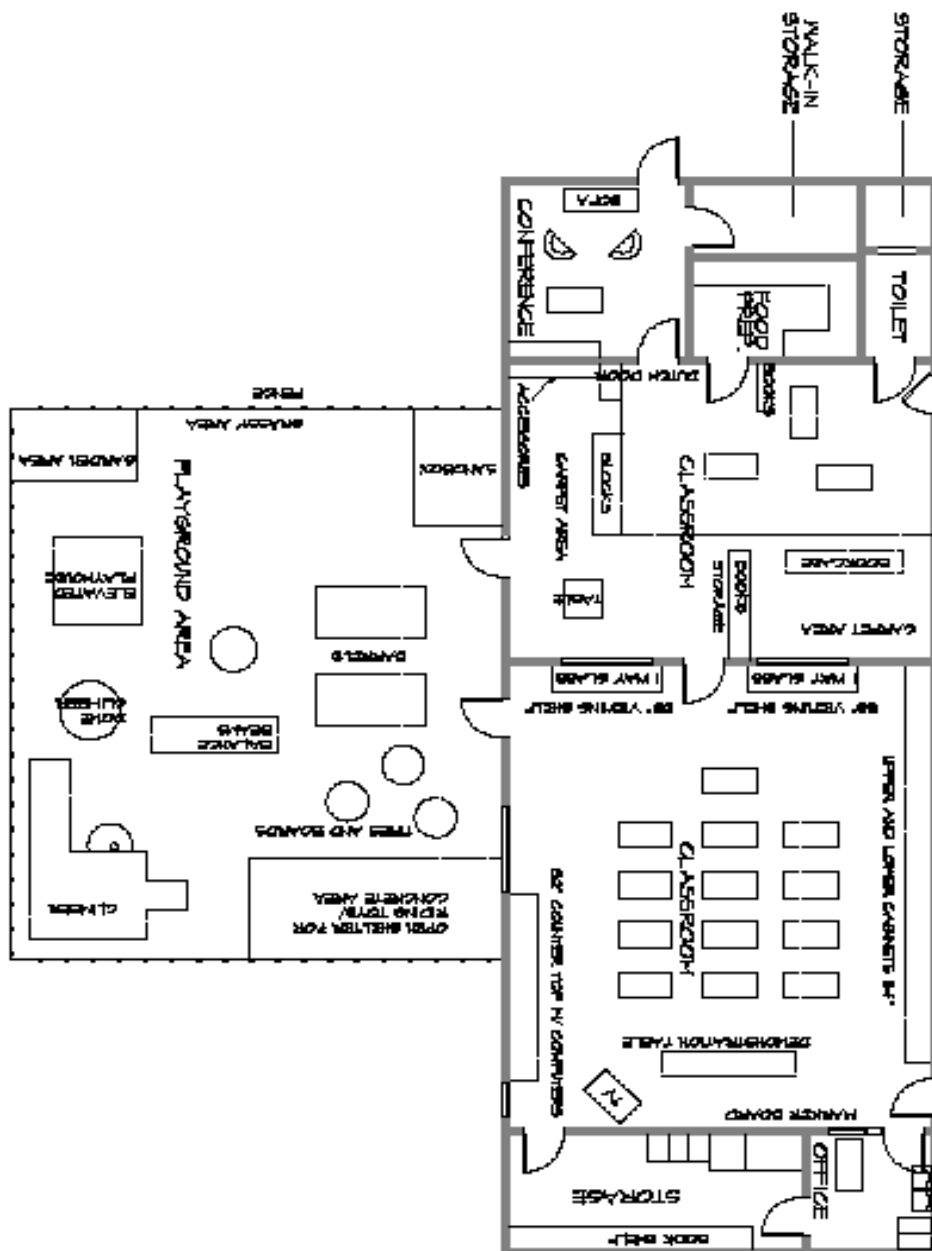
Standard	Minimum	
	Support Space	Instructional Space
Student Capacity	N.A.	28 Students
Ceiling Height	8' – 8''	8' – 8''
Room Dimension	8' – 0''	22' – 0''
Artificial Illumination	50 foot candles	50 foot candles
Markerboard	N.A.	48 Square feet in the Classroom area
Tack board	N.A.	48 Square feet in the Classroom area, with 48 LF of tack strip distributed as required
Finishes	Low maintenance	Low maintenance
Storage	See b.12.2	
Technology	Voice, data, video and power outlets at (1) teachers station; Data outlets at each student station; Power outlets at each computer workstation and video outlet and sewing machine.	
Equipment	<ul style="list-style-type: none"><li>▪ Minimum of (5) Kitchen Units for the on teacher program; Ranges, microwave ovens, refrigerators, dishwashers, small appliances</li><li>▪ Washer, dryer and ice machine per department</li></ul>	
Utilities	Hot & Cold water at Kitchen Units; exhaust ventilation at range hoods and dryers; electrical outlets along perimeter walls; washer, dryer & dishwasher hook-ups.	
Special Features	See (a) below	
Notes: (a) Programs in Child Development Services shall provide additional space and meet the requirements of the Cabinet for Human Resources Day Care Administrative Regulations.		

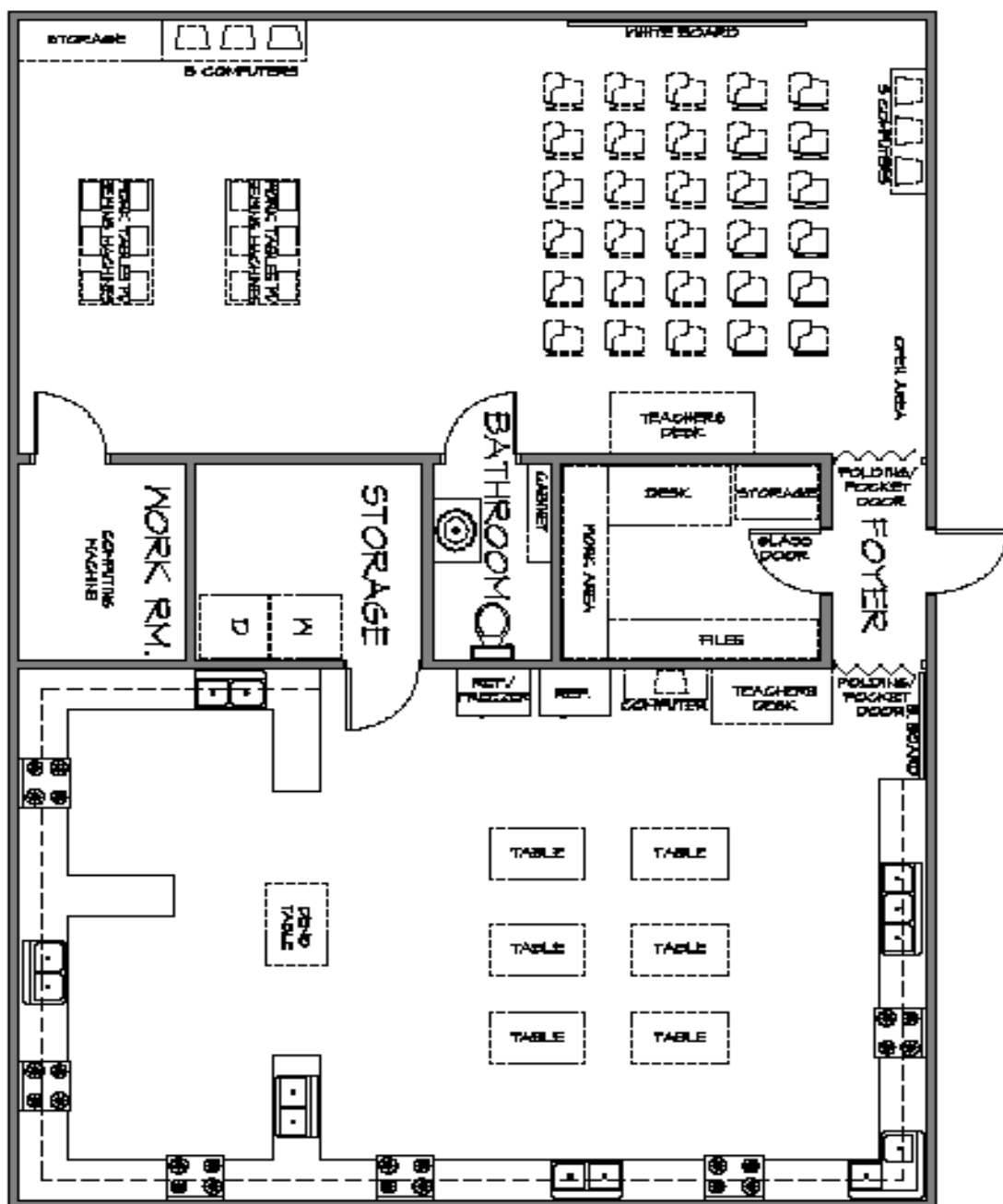
## **SAMPLE ROOM LAYOUTS**

The following is the recommended room layouts for Family and Consumer Sciences programs in Kentucky.

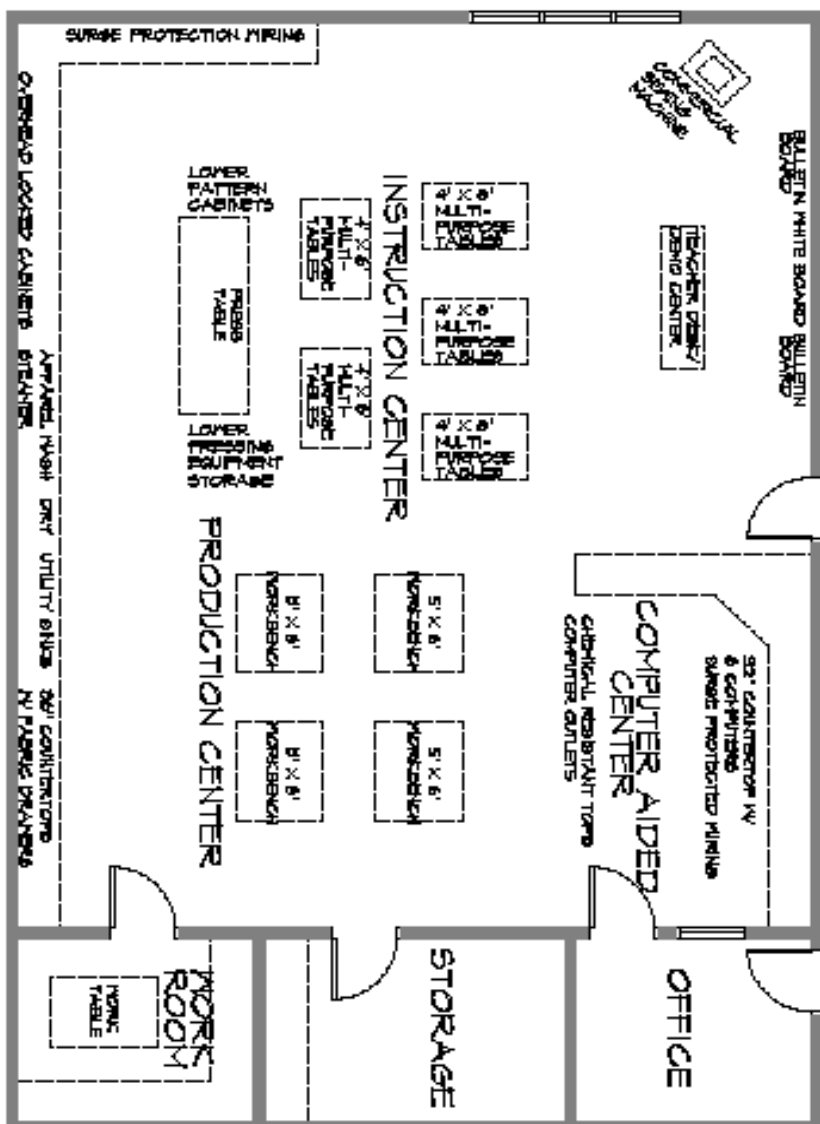
The layouts are listed by career majors. In programs with multiple career majors, facilities should be planned to meet the needs of each major.











**FASHION AND INTERIOR DESIGN**  
**KENTUCKY DEPARTMENT OF EDUCATION**  
 Division of Career and Technical Education  
 505 West Main • 5th Floor Plaza Tower  
 FRANKFORT, KY 40621

HDDS

NOT TO SCALE

## **STANDARD EQUIPMENT LIST**

The following is the recommended equipment list for Family and Consumer Sciences programs in Kentucky.

The items are listed by content area for career majors to enable each school to plan for those items that they will use for instruction. The quantity of each item needed by any school will vary. It should be based on the maximum number of students that will be using the equipment in a given area.

In multi-teacher departments, duplicates of certain items may be necessary.

## EQUIPMENT LIST

### FAMILY AND CONSUMER SCIENCES

#### **General for All Family and Consumer Sciences Career Majors**

##### **Space Considerations:**

*See individual Career Major*

#### **Equipment Recommended for Each Teacher Learning Center:**

##### **Area: Teacher's Work Station**

ITEM	ITEM DESCRIPTION	MINIMUM QUANTITY
Teacher's Desk	38" x 48" with one file-size drawer with lock	1
Teacher's Chair	Cushioned with casters	1
Student Seating	Tables and chairs or individual student desks	24-31
Bulletin Board	Minimum 48" x 48"	1
File Cabinet	4 drawer with lock	2
Pencil Sharpener	Wall or desk	1
Clock	Electric or battery with the second hand large enough to be seen in all parts of the room	1
Telephone		1
Computer Table	Large enough to hold computer, monitor, printer and scanner	1
Flexible Video Camera		1
Computer (for Teacher)	Includes CD Rom Drive, CD Burner	1
Color Monitor (for Teacher)		1
Wireless Mouse		1
Printer (for Teacher – color, high resolution)		1
Scanner		1
Storage Cabinet	4 Shelves with lock	1
Video/DVD/CD Storage unit		1
Electric Hole Punch		1
Electric Stapler		1
Electric Sharpener		1

Binding Machine		1
Laminator		1
Single-page hole punch		1
Label Maker		1
Podium/Lectern		1
Paper Cutter		1
Hot Glue Gun		1
Easel(s)		1-2
Staple Gun		1
Broom		1
Dust Pan		1
Mop		1
Mop Bucket		1

**Area: Technical Equipment for Department**

ITEM	DESCRIPTION	MINIMUM QUANTITY
Computers, color monitor (network connection)	State Approved	20
Headphones/Speakers		20
Printer	Laser, color, high resolution	2
Projection Screen	Wall Mount	1
LCD	Mounted on Ceiling	1 per room
TV/VCR/DVD	Wall Mounted	
VCR/DVD Storage Cabinets	With lock	2
Camera	Digital, with video capability With tripod	1
Flexible Video Camera		1
Video Camera/Tripod	With editing software	1
First Aid Kit/Cabinet		1
Flashlight Battery Powered		1
General Tool Kit		1
Easel(s)	Tabletop and Floor	1-2
Display/Tack Board		1
Book Cases		2 per room
Graphic Calculators		classroom set
CBL – Calculator Based Lab with Probes for temperature voltage, light intensity, phone, heart rate and pressure	Calculator Attachments for Graphic	1
Smart Board	Mounted or Portable	1
White Board		1

Dye Cutter	Access to Ellison or Accu Cut	1
Laptop	Wireless capability	1
Software:	Microsoft XP or Vista 2007 or higher Power Point MS Word Excel Access Rite to Read Quicken CAD Photo Deluxe Publisher In Design CS2 Corelle Draw	

## **Career Major: Child Development**

### **Space Considerations:**

**Minimum Space 3,350 square feet**

### **Housekeeping Center:**

ITEM	DESCRIPTION	MINIMUM QUANTITY
Doll Bed	Strong Child size	1
Mini Kitchen	Wooden sink, stove, refrigerator	1
Doll Carriage	Hardwood child size	1
Dolls	Flexible, family of 5, for use with blocks or doll house	5
Toy Telephone	Wooden Phone	2
Pots and Pans	Child size	4
Dishes, cups, flatware	Child size and age appropriate	2 sets
Housekeeping Set	Child size, broom, mop, dustpan	1 each
Tea Table	Wooden	1
Chairs for Tea table	Wooden	2
Doll High Chair	Wooden	1
Doll House		1
Doll Storage	4 shelf cabinet	1
Play Food		4 sets

### **Block Area:**

ITEM	DESCRIPTION	MINIMUM QUANTITY
Animal sets	Plastic sets	4
Balance beams	Child size wooden	1
Building block set	Wooden sets	3
Building blocks	Large wooden and vinyl/foam sets	3
Family sets	Multi-cultural	2

Farm building set	Plastic	2
Gas station	Plastic	1
Interlocking train and tugboat sets		1
Parachute	Multi-colors	2
Transportation toys	Child size	6
Tumbling mats	Child size	2
Beads, abacus	Large size	4
Bead Stringing sets	Large size	4
Bristle blocks	Large size	4
Color cones sets	Plastic	4
Cubes, 1-inch colored, with set of designs		4
Discovery balls	Multi-colors	6
Dominoes set	Wooden	2
Lacing boots	Child size	6
Lincoln log	Wooden sets	3
Manipulative sets	Plastic	6
Matching games	Age appropriate	6
Multivariate sequencing beads with set of patterns		6
Parquetry blocks with set of designs, large and colored		6
Pegboards with pegs		6
Plastic dishpans for storage		12
Pounding bench	Wooden child size	2
Puzzles, wooden inlay	Multi-cultural gender neutral	12
Puzzle rack	6 trays	2
Threading box	Sorting box with accessories	1
Workbench	With vises and tools	1
Staking toys	Plastic	6

Pull/push toys	Child size	6
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### **Art/Writing Center:**

ITEM	DESCRIPTION	MINIMUM QUANTITY
Aprons or smocks for children	Plastic	12
Brushes	1-inch long handles	24
Butcher paper & dispenser		1
Construction paper/storage rack		1 set
Craft supplies		1 set
Drying rack	Wooden	2
Easels	Floor stand	2
Scissors	Blunt point, right – and left – handed	24
Scissors	Teacher	4
Stapler	Hand held	4
Tape dispenser	Desk top	2
Crayons	Big/thin	200
Paint	Watercolor sets	4
Liquid watercolors	Primary and secondary sets	4
Finger Paint	Primary and secondary sets	4
Chalkboard	Floor stand	1
Chalk	Colored sets	2
Pencils	Fat	24
Line paper	Large line sheets	200
Table	3 ½ x 5 with adjustable legs	2
Chairs	Stacking, stacking 12”-14” height	14

**Sand and Water Center:**

ITEM	DESCRIPTION	MINIMUM QUANTITY
Sand table	Child size	1
Water table	Child size	1
Toys	Age appropriate	24
Smocks	Heavy – duty plastic	12
Clothesline	For drying smocks	1

**Library Center:**

ITEM	DESCRIPTION	MINIMUM QUANTITY
Children's books	Durable covers variety of subjects	50
Wooden rack	Display books	1
Hand puppets	Variety	12
Flannel board	Floor stand	2
Storage center	For hand puppets	1
Bean bag	Child size made to sit on	12
Puppet stage		1

**Music and Sound Center:**

ITEM	DESCRIPTION	MINIMUM QUANTITY
Autoharp with case		1
Barrel drum		1
Carpet or rugs		1
Cassette tape player with headphones/tapes		1
CD player/CDs		1
Cymbal		1
Keyboard or piano	Child size	1
Rhythm band instruments		2 sets
Tom-toms		2 sets

**Science and Nature Center:**

ITEM	DESCRIPTION	MINIMUM QUANTITY
Aquarium	With fittings 120v	1
Balance scales		1
Cage for small animals		3
Giant teeth		1
Magnets	Bar and horseshoe	2
Magnifying glasses/stool		2
Tape measure	Standard and metric	1
Thermometers, room	Fahrenheit and Celsius	1

## **Outdoor Center**

ITEM	DESCRIPTION	MINIMUM QUANTITY
Balance beam	Movable child size	1
Balls	Assorted	12
<b>Outdoor play equipment:</b>		
Riding toys	Child size	6
Slide	Low – profile with extra wide slide bed	1
Jump rope		6

## **Miscellaneous:**

ITEM	DESCRIPTION	MINIMUM QUANTITY
Children's Cubbies	Set of 12	2
Rocking Chair	Adult	1
Storage for outdoor equipment	4 level shelf	3
Storage units, cubicle	4 level shelf	3
Storage units, general		2
Storage units, hanging		2
Storage units, mobile		2
Infant simulators		15
Accessories for infant simulators		5
Storage for infant simulators		1
Empathy Belly		1
Realistic fetal development models		1
Tub for bathing baby demo		1
Educational references		

## **Career Major: Consumer and Family Management**

### **Space Considerations**

**Minimum Space 2,700 square feet**

### **Equipment:**

See equipment list in general and technical equipment for department courses that may be listed under other career majors.

ITEM	DESCRIPTION	MINIMUM QUANTITY
Educational Resources	Appropriate for consumer & family studies/management	
Utility Cart	3 tray	1

## Career Major: Culinary and Food Services

### Space Considerations

**Minimum Space 3,350 square feet**

### General Items:

ITEM	DESCRIPTION	MINIMUM QUANTITY
Base cabinets	Finished to resist water, stain, and detergents  (providing 10-12 linear feet)	5 units
Wall cabinets	With adjustable shelves	5 units
Range	Electric or gas, self-cleaning, automatic timer,  window in oven door	5
Exhaust system	Built-in or over each range	
Sink	Double bowl, stainless or porcelain	5
Waste disposal	1 ½ horsepower	5
Trash can	32 gallon capacity with lid	2
Dryer	Electric or gas, vented	1
Washer	Electric, heavy duty	1
Demonstration table	Built-in or portable	1
Microwave oven	Portable, variable temperature control	5
Hand sink	One bowl	1
Tables	4' x 8'	5
Chairs	Hard plastic, stacking with chrome legs	31
Refrigerator	Frost free, freezer at top – 18 cu. ft.	3
Freezer	Upright, frost free - 20.3 cu. ft.	1
Dishwasher	Heavy duty, 4 cycle, low noise level	2
Mixer	Standing heavy duty, standard, 12 speed  4-6 quart mixing bowls	5
Blender	Multi-speed, stainless blade, 5 cup	5
Toaster	Automatic, 2 slice	5

Can opener	Electric or hand held, open any size can	5
50 pound bin	Plastic with casters for flour and sugar	2
Stepstool		1
Storage cabinets	Locked for cleaning supplies, linens, event serving pieces, etc.	3-4
Dish drainer/tray		5
Utility cart	Stainless steel, 3 shelves	2
Paper towel dispenser	Mounted or portable wooden/metal	6
Hand soap dispenser	Mounted	6
Dish towels	Cotton	12 dozen
Dish cloths	Cotton	12 dozen
Potholders	Heat resistant	2 dozen
Chef aprons	Cotton	1 per student
Educational resources/references		

**Food Preparation Items:**

ITEM	DESCRIPTION	MINIMUM QUANTITY
Coffee maker	10-12 cup	1
Coffee percolator	30 cup	1
Scale	Portion	5
Deep fat fryer and strainer	10" electric	1
Hand juicer		1 per unit
Skillet	8"	1 per unit
Skillet	10"	1 per unit
Pressure cooker	4 quart	1
Omelet pan		1 per unit
Rolling pin	Wooden	1 per unit
Cutting board	Polyethylene – 8 ½" x 11"	1 per unit
Cutting board	Polyethylene – 14" x 17"	1 per unit
Cookie cutter set	Assorted	1 per unit
Gelatin mold	Assorted sizes	1 per unit
Grater/Zesters	Assorted	2 per unit
Stock pot/lid	8 quart	1 per unit
Batter bowl	Glass, 2 quart	1 per unit
Scoop	Set	1 per unit
Cookie scoop	½ oz portion size	1 per unit
Egg separator		1 per unit
Can/bottle opener	Hand-held	1 per unit
Colander	Plastic or metal	1 per unit
Sifter		1 per unit
Vegetable brush		1 per unit
Salt & Pepper Shakers		1 per unit

Cookware set	1, 1 ½, 2 quart saucepans with lids, etc.	1 per unit
Casserole set	Glass	1 per unit
Round cake pan	8"	2 per unit
Round cake pan	9"	2 per unit
Square cake pan	8"	2 per unit
Spring form pan	Set	2 per unit
Loaf pan	11" x 6 ½"	2 per unit
Loaf pan	4 ½" x 2 ½"	2 per unit
Oblong pan	9" x 13"	2 per unit
Pie pan	9"	2 per unit
Tart pan		6 per unit
Angel Food pan	10"	1 per unit
Bundt pan	10"	1 per unit
Muffin pan	6-cup	2 per unit
Muffin pan	12-cup	1 per unit
Mini-muffin pan	12-cup	4 per unit
Cookie sheet	12' x 14"	3 per unit
Jelly roll pan	15 1/2" x 10 ½" x 1 1/8"	2 per unit
Pizza pan	14"	2 per unit
Cooling rack	13" x 19"	4 per unit
Trays	Utility	1 per unit
Hand mixer	Electric, heavy duty motor, 5 speed	1 per unit
Mixing bowl set	Stainless steel, various sizes	1 per unit
Mixing bowl set	Glass, various sizes	1 per unit
Measuring cups	Set of four dry measure	1 per unit
Measuring cups	Glass – 1 cup and 2 cup	1 per unit
Measuring spoons	Set of four standard sizes	1 per unit

Knives	Set of five assorted sizes and types	1 per unit
Steaming basket		1 per unit
Electric skillet		1 per unit
Slow cooker	6 quart	1 per unit
Food processor	12-cup	1 per unit
Bread Maker		1 per unit
Electric knife		1 per unit
Vegetable peeler		2 per unit
Kitchen shears		1 per unit
Pizza cutter		1 per unit
Cooking spoon	Long handle, metal/nylon	2 per unit
Cooking spoon	Slotted, metal/nylon	1 per unit
Cooking spoon	Wooden/nylon set	1 per unit
Cooking fork	Long handle, metal	1 per unit
Turner	Metal/nylon	1 per unit
Turner	Slotted, metal/nylon	1 per unit
Doughnut/Biscuit cutter	Set of various sizes	1 per unit
Apple Slicer/Corer		1 per unit
Tongs	Utility	1 per unit
Tongs	Ice	1 per unit
Ice scoop		2
Ice cream scoop		1 per unit
Custard cups	Glass set	1 per unit
Candy/Deep Frying thermometer		1 per unit
Meat thermometer		1 per unit
Heat resistant spatula	Various sizes	1 per unit

Metal spatula	Straight edge	1 per unit
Ladle	Soup	1 per unit
Pastry brush		1 per unit
Double boiler/lid	Metal or glass	1 per unit
Pastry blender		1 per unit
Balloon whisk	Metal	1 per unit
Cheese slicer		1 per unit
Food chopper		1 per unit
Storage containers	Various sizes with lids	1 set per unit

**Serving Equipment:**

ITEM	DESCRIPTION	MINIMUM QUANTITY
Dinnerware	20 piece set	2 per unit
Flatware	20 piece set	2 per unit
Beverage glass		8 per unit
Water glass		8 per unit
Juice glass		8 per unit
Pitcher	2 quart, glass	2 per unit
Platter		2 per unit
Serving bowls	1 quart size	4 per unit
Sugar bowl		1 per unit
Cream pitcher		1 per unit
Bread basket		1 per unit
Relish tray		1 per unit
Butter knife		1 per unit

Cold meat fork		1 per unit
Sugar spoon		1 per unit
Serving spoons		4 per unit
Pastry/pie server		2 per unit
Flatware tray		1 per unit
Sherbets		8 per unit
Large Serving spoons	Long handled	3-4 per unit
Serving slotted spoons	Long handled	3-4 per unit
Serving forks	Long handled	1 per unit
Serving ladles	Long handled	3-4 per unit
Serving tongs	Long handled	3-4 per unit

**Specific Culinary Food Items:**

ITEM	DESCRIPTION	MINIMUM QUANTITY
Six burner range		3
Flat top range	Two of the ovens need to be convection	2
Char-broiler burner		1
Prep tables	Stainless steel	9
Overhead salamander		1
Wire rack locking cage for storage		1
3 compartment sink	With sideboards	1
2 compartment vegetable sink	With one sideboard	1
2 basket fryer	With dual temperature control	1
3 door reach-in refrigerator		1
Vent hoods	Sufficient to handle ventilation needed	1 per unit
Ice machine		1
Rack system	Hold blades	1

Kitchen Aid Mixer	16 quart	1
Food mill		1
Shelving unit	4 tier – 24” deep, 60” long	1
Counter, sandwich	Self-contained, 6’ capacity unit	1
Dishwasher	Commercial with dish racks	1
Equipment stand	Stainless steel 24” x 8’ x 24”	1
Exhaust system	With automatic fire extinguisher	1
Freezer	25 cu. ft., reach-in, stainless steel front	1
Fry kettle	15 quart	1
Grill	With two thermostats	1
Hot food server	Electric, portable with sneeze guard	1
Oven	Convection with stand or combo-oven Microwave, commercial, heavy duty	1
Range	Commercial	1
Gas burner	Commercial	1
Ice cream/sorbet maker	Built-in or portable	1
Panini press		1
Salad bar, on casters		1
Steamer	With sneeze guard, center drain, fiberglass reinforced plastic well	1
Steamer/cooker		1
Storage units, dish storage	Aluminum, 2 qt. inset and 6 qt. outside pan	1
Storage units, pot and pan	Flat shelving, 4 high 12” x 15” and 6’ long	2
Storage units	Flat shelving, 5 high 27” x 60” long	2
Storage units	Dry food storage shelving	*
Utensil rack	Food storage bins, floor models on casters	*
Drum sieve	Hanging	*
Mesh strainers	Stainless steel	1 per unit

\*Number depends on the available space

Serving platters	8" round	1 per unit
Baker's scale	Assorted sizes	3 per unit
Pressure scale		2
One Ounce Pressure scale		1
Bakeware set		1
Mixing bowls	Commercial	1 per unit
Braising pan	Stainless steel, 5 qt. – 30 qt.	1 set per unit
Broiler	Tilting	*
Cash register	18"-30" infrared	
Chafing pans, stands, covers		1
Coffee maker		3
Culinary set	2-pot, 2 built-in warmers automatic with decanters	1
Dinnerware set	Including knife rack and cutting board	1 per unit
Flatware set	Plate and table service for 60	*
Glassware set	Plate and table service for 60 including baskets/trays	*
Table linens	Food and beverage	service for 60
Soufflé pans	Plate and table, and buffet	service for 60
Beverage servers		4-6
Cake decorating set		6-10
Chef jackets		5
Grinder		3 per team
Menu board	Table top, hand operated, stainless steel, with five cones	2
Microwave cookware		1
Pan set	Assorted set	1
Percolator	For range and oven	1 per unit
Toaster	100 cup	1

\*Number depends on the available space

Garnishing tool kit	Commercial, electric 2 slice	1
Heavy duty stockpot		3-4
Heavy duty stockpot	20 gallon	2
Heavy duty stockpot	10 gallon	2
Heavy duty saucepan	5 gallon	2
Heavy duty saucepan	1 quart	2
Heavy duty saucepan	2 quart	2
Saucepan	6 quart	2
Saucepan	1 quart	2
Saucepan	2 quart	2
Sauté pan	6 quart	2
Rondeau	10"	6
Sautoir	6 or 10 qt. stainless	2
Wok	3 or 4 qt. stainless	2
Sharpening stone	Steel with two handles	1
Knife Sharpening steels	Tri-sided	1
Chef knife		2
Chef knife	10" handle grip	10
De-boning knife	8" handle grip	10
Paring knife	Handle grip	10
Serrated knife	Handle grip	20
Channel knife	Handle grip	1
Bone cleaver	Handle grip	2
Baking sheets	Handle grip	1
	Full size	12

**Career Major: Family and Consumer Sciences Education**

**Space Considerations:**

**Minimum Space 2,700 square feet**

Educational Resources/References

ITEM	DESCRIPTION	MINIMUM  QUANTITY
Refer to general equipment, teacher workstation, and technical equipment for department courses listed under other career majors.		

## **Career Major: Fashion and Interior Design**

### **Space Considerations:**

**Minimum Space 3,350 square feet**

### **General Equipment:**

ITEM	DESCRIPTION	MINIMUM QUANTITY
Sewing Machines	Electrical and or portable school machines	1 for every two students
Commercial Machines	Computerized embroidery machine and Serger	2
Storage cabinets		*
Steamer	Commercial	1
Mirror	Triple with fitting stand, may be part of permanent facility or in cabinet	1
Shears	6-7" dressmaker, right-hand	15
Shears	6-7" dressmaker, left-hand	2
Shears	Pinking	2
Scissors	Trimmer	12
Tape measures	Cloth or Vinyl	24-31
Yard sticks	Wooden or metal	24-31
Seam Gauges	6"	24-31
Rulers/Dressmakers	Transparent	2
Dress form		1
Hem Marker	Pin type and chalk type	2
Automatic Hem Gauge	Metal	2
Irons		4-6
Ironing boards/covers		4-6
Architectural Ruler		24-31
Assorted hand tools	Upholstery/drapery work wall-hanging, etc.	*
Construction samples	Exterior brick/siding/stone, roofing	*

\*Number depends on the available space

Cutting boards	18" x 24", 24" x 36"	24
Display cases/showcases		1
Drafting tables with stools		1
Educational resources/references		*
Flat files	For architectural plans	1
Lighting	Several types for demonstration ambient, accent, task, or decorative	2-3
Paint & supplies	Watercolors and acrylic – primary colors	classroom set
Paintbrushes	Small brushes for art activities	classroom set
Paint	Sample swatches for interior & exterior	1
Pressing tools	Hams, mitts, sleeve board	4
Repair tool kit		1
Rulers, curved		1
Sink	Hand washing/clean up	1
Step ladder		1
Templates	Stencils for standard appliances and furniture	2 sets
Tongs		6
Tote trays		31
Utility Carts		1
Flooring samples	Tile, wood, resilient, carpet	*
Wallpaper application tools		*
Rotary Cutter		2
Samples	Fabric for upholstery and drapery	*

\*Number depends on the available space

## **Career Major: Hospitality Services Career Major**

### **Space Considerations:**

Minimum Space 3,350 square feet

Multipurpose room:

Built-in storage	200 square feet (included in suite total)
Teacher office	150 square feet (included in suite total)
Restroom facility	100 square feet (included in suite total)

Refer to Culinary & Foods Services list for:

General Items

Food Preparation

Serving Equipment

ITEM	DESCRIPTION	MINIMUM QUANTITY
Educational Resources/References	Appropriate for hospitality services; ServSafe materials	class set
Cleaning equipment:	Commercial mop & bucket, broom, 1 each access to vacuum, carpet cleaner	1 each
Murphy bed (wall unit) or Roll-a-way bed		1
Sheets	Fitted & flat	2 sets
Blanket		1
Bath linens	Bath towel, hand towel, wash cloth	2 sets
Utility cart		1

### **Specific kitchen equipment:**

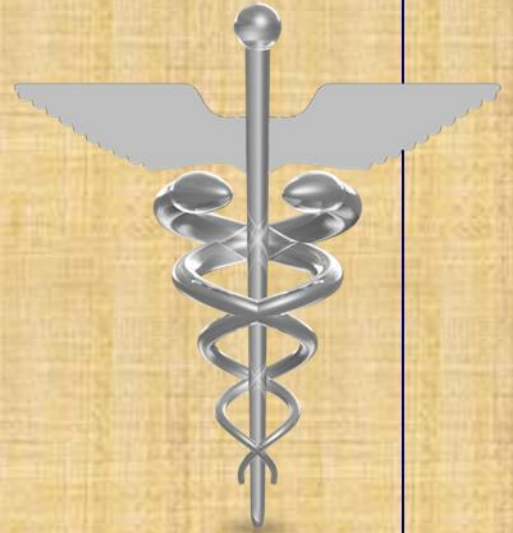
ITEM	DESCRIPTION	MINIMUM QUANTITY
Range	Flat top or gas	5
	Convection ovens	2
Gas burner	Built-in or portable	1
Oven	Microwave	5
Prep tables	Stainless steel	1
3 compartment sink	With sideboards	1
2 compartment sink	With one sideboard	4

Refrigerator		2
Vent hoods	Sufficient to handle ventilation needed	1 per unit
Dishwasher		2
Exhaust system	With automatic fire extinguisher	
Freezer	25 cu. ft., reach-in, stainless steel front	1
Kitchen aid mixer	4-5 quart	5
Ice cream/sorbet maker		1
Steamer	Inset	5
Drum sieve	Stainless steel	1
Mesh strainers	8" round	2
Serving platters	Assorted sizes	10-12
Food scale	Digital	1
Bakeware set		1 per unit
Mixing bowls	Stainless steel 1- 8 qt.	1 set per unit
Chafing pans, stands, covers		2-3
Coffee maker	2-pot, 2 built-in warmers automatic with decanters	1
Culinary set	Including knife rack and cutting board	3
Dinnerware set	Plate and table service for 60	*
Flatware set	Plate and table service for 60 including baskets/trays	*
Glassware set	Food and beverage service for 60	*
Table linens	Plate and table, and buffet service for 60	*
Soufflé pans		4-6
Beverage servers		6-10
Cake decorating set		5
Chef jackets/aprons		1 per student
Microwave cookware	Assorted	1 set per unit

\*Number depends on the available space

Pan set	Range and oven	1 set per unit
Toaster	Electric 4 slice	2
Garnishing tool kit		5
Heavy duty stockpot	20 gallon	2
Heavy duty stockpot	10 gallon	2
Heavy duty stockpot	5 gallon	2
Heavy duty saucepan	1 quart	2
Heavy duty saucepan	2 quart	2
Heavy duty saucepan	6 quart	2
Saucepan	1 quart	2
Saucepan	2 quart	2
Saucepan	6 quart	2
Sauté pan	10"	6
Wok	Steel with two handles	1
Sharpening stone	Tri-sided	1
Knife Sharpening steels		2
Chef knife	10" handle grip	10
Chef knife	8" handle grip	10
De-boning knife	Handle grip	10
Paring knife	Handle grip	20
Serrated knife	Handle grip	3
Channel knife	Handle grip	2
Bone cleaver	Handle grip	1
Baking sheets	Full size	12

# HEALTH SCIENCE FACILITY GUIDE



# HEALTH SCIENCE EDUCATION

- OVERVIEW
- GENERAL SPECIFICATIONS
- SAMPLE ROOM LAYOUTS
- RECOMMENDED  
EQUIPMENT LISTS



## **Health Science Program Overview**

The following information is provided to assist the local high school or locally operated career/technical center in the development of a comprehensive Health Science Program. This program has changed during the past few years to address the growing need for healthcare workers in the state and nation. Courses are available for students wishing to explore the healthcare field, to concentrate on specific areas in healthcare or to receive specific training as a Medicaid Nurse Aide. The course is no longer strictly for Nurse Aides. The Program curriculum is aligned with the National Health Care Skill Standards and Kentucky Core Content for Assessment.

Standards are included as minimum and should serve as a “starting point” for new and innovative programs. Some programs may choose to design their own layout to simulate a patient care setting. In order to have a total program, students should have access to one or both career majors – Allied Health (general) or Pre-Nursing (Medicaid Nurse Aide). The equipment and supply list is tailored for each individual course.

The initial expense for setting up a new program is perhaps one of the most cost-effective of all Career/Technical Programs. Many equipment items may be obtained as a donation from the local healthcare partner of facility. In this situation, the school should ensure that the equipment meets the standards set forth in this document and meet all OSHA guidelines for safety. Supplies should be replenished annually and quantities may vary depending on the course and number of students.

For more information about the Health Science Program in the high school, please contact the Kentucky Department of Education, 500 Mero Street, 2116 Capital Plaza Tower, Frankfort, Kentucky 40601.

**HEALTH SCIENCE PROGRAMS shall be provided in accordance with the following table:**

#### **HEALTH SCIENCE UNITS**

Grade Level	Minimum Unit Area (square Feet)	Unit/student Ration
Elementary	N.A.	N.A.
Middle/Junior High	900	One per Program
High	1280	One Per Program

**Location: Shielded from noise – producing activities and functions**

**Support Spaces: The Instructional Area shall be internally subdivided to provide the following support spaces**

#### **HEALTH SCIENCE SUPPORT SPACES**

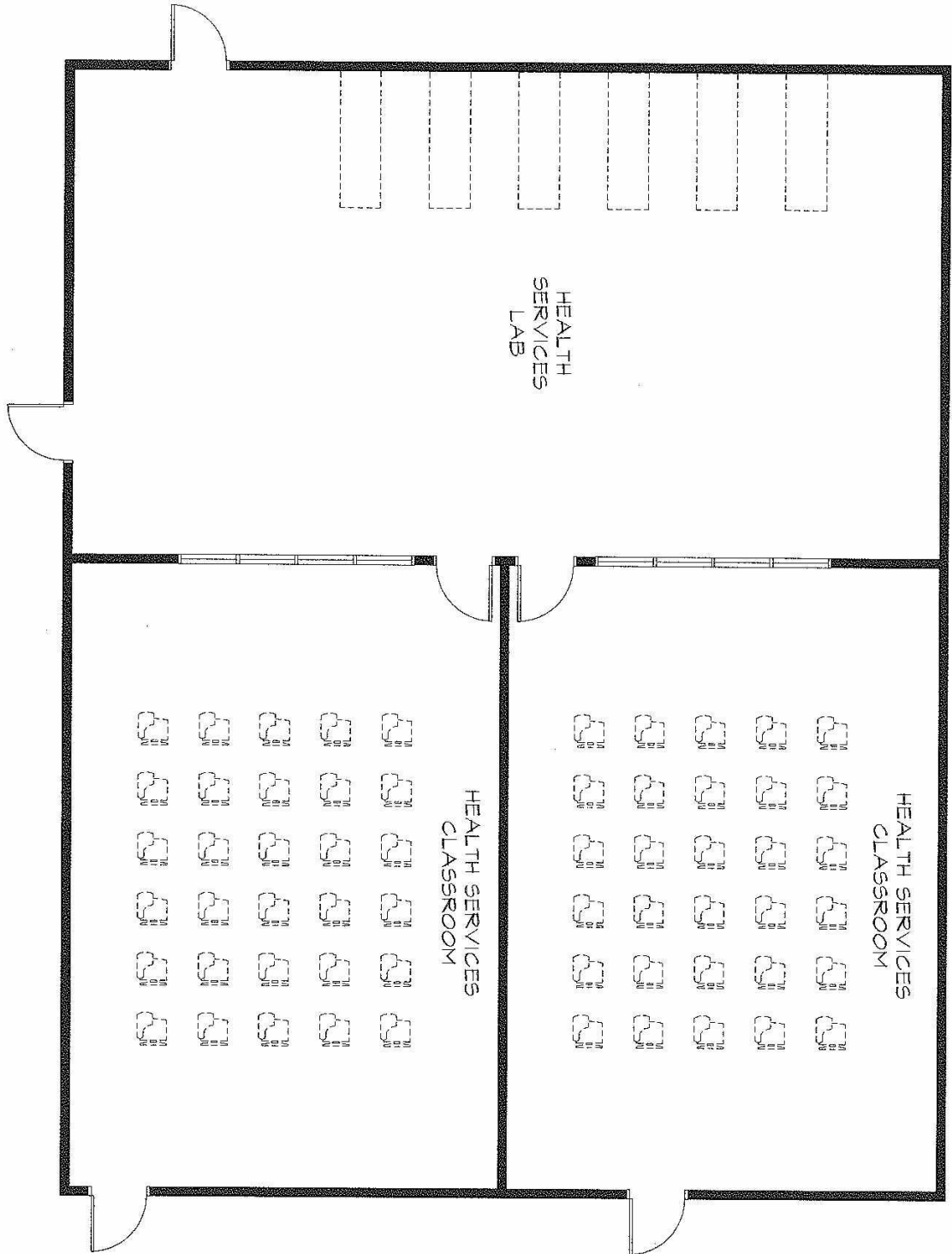
Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
All	Storage	150	Lockable storage; shelving

**The Minimum Standards as given by the following table shall be provided in each Health Science Program:**

#### **MINIMUM HEALTH SERVICES INSTRUCTIONAL PROGRAM STANDARDS**

Standard	Minimum	
	Support Space	Instructional space
Student Capacity	N.A.	15 Students
Ceiling Height	8' – 8"	8' – 8"
Room Dimension	8' – 8"	22' - 0
Artificial Illumination	50 foot candles	50 foot candles
Chalkboard/Markerboard	N.A.	48 Square feet
Tack board	N.A.	48 Square feet
Finishes	Low Maintenance	Low Maintenance
Storage	See b.13.2	
Technology	Voice, data and video outlets at (1) teacher station; Data outlets at each student station; Power outlets at each computer and video outlet	
Equipment	Electric bed with mattress, linens and bedside table; Copier, dictating & transcribing machine, audio-visual equipment, projection screen; Microwave oven & refrigerator	
Utilities	Hot & Cold water sink; electric outlets for appliances and audio-visual equipment	
Special Features	Library area with book shelving	





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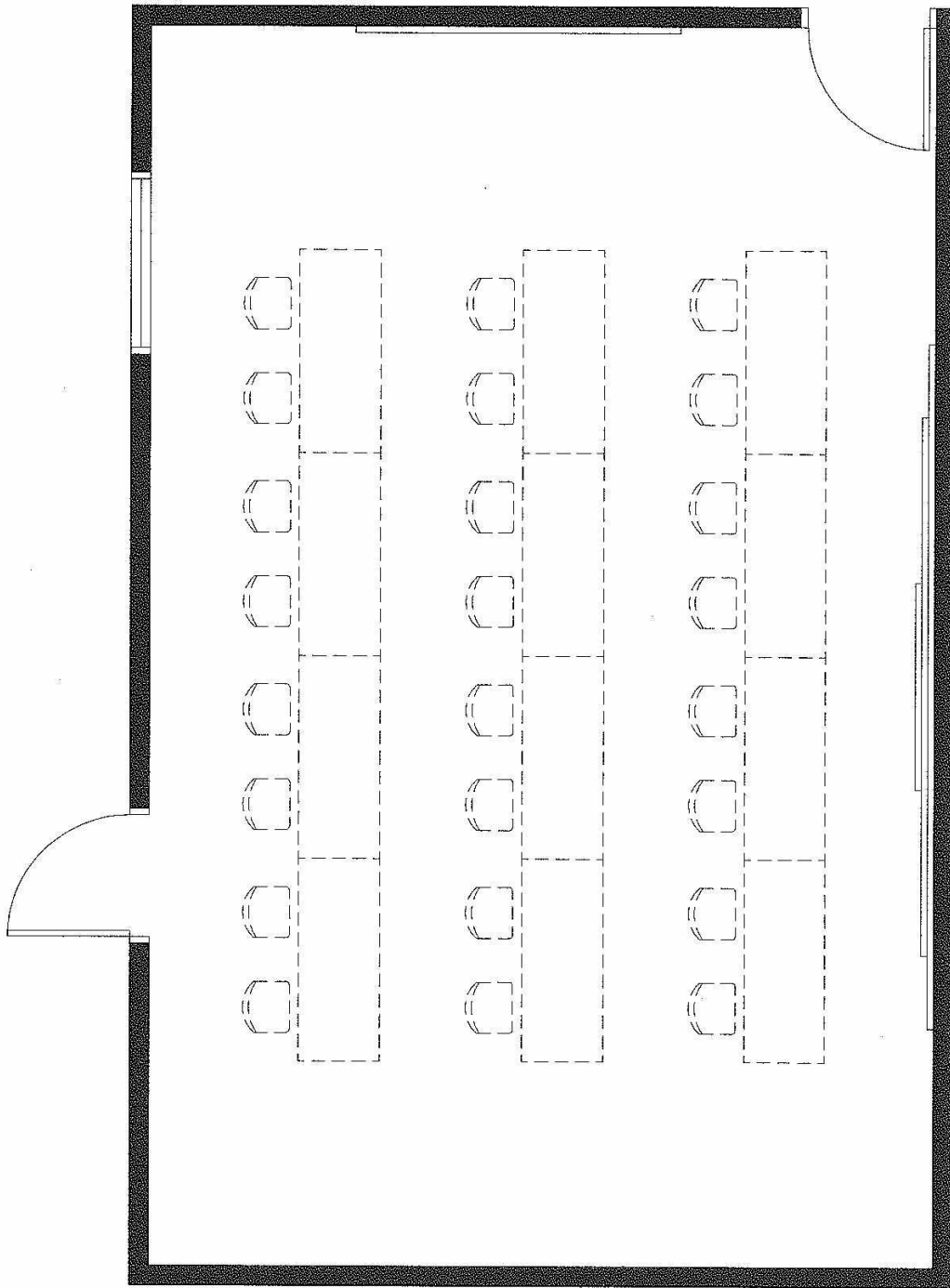
DATE



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Division of Career and Technical Education  
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Frankfort, Ky 40601

PROJECT NO: 2028.031  
DRAWN BY: JH2  
CHECKED BY: JH2  
APPROVED BY: JH2  
PLOT DATE: 4-15-2008  
REVISIONS:



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KEY PLAN

KEY PLAN



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PROJECT NO: 2008.0751  
DRAWN BY: J. B. BROWN  
CHECKED BY: J. B. BROWN  
APPROVED BY: J. B. BROWN  
PLOT DATE: 10/1/2008  
REVISIONS:

## **Health Science**

The equipment and supply list for both Health Science Career Pathways is outlined by course rather than pathways. The lists, structured in this manner, will aid in the selection of equipment specifically required by each class. You may choose your Allied Health Pathway to include a variety of courses from the Program of Studies. Please note, however, that the Pre-Nursing Pathway **MUST** include the Medicaid Nurse Aide equipment list.

## HEALTH SCIENCE PROGRAMS

### Course: Medical Math

#### Equipment and Supply Lists

ITEM	ITEM DESCRIPTION	QUANTITY
Anatomical Models	Various Parts of the body	Multiple
Audio Visuals		Multiple
Balance Scale		1
BBP Cleanup Kit*		1
Biohazard Container*	Puncture resistant	1
Calculator	Standard, scientific and/or printing	1
Camera	35mm, video or digital with case	1
Charts	Anatomical	Multiple
Charts	Nutritional	Multiple
Charts	Careers	Multiple
Clock	24 hr. with second hand	1
Computer Software		Multiple
Computer Laser Color Printer		1-2
Computers with CD Rom	Meeting KETS standards	6-12
Computer Workstations		6-12
Photo Copier		1
Distilled Water*		Multiple
Drug Reference Book		6
Electronic Projection System	With screen	1
Eyewash Station		1
Fat Calibrator		1
Fatal Vision Glasses Kit		1
Fax Machine		1
Hand Hygiene Supplies		Various
HOSA	Handbook, Leadership Videos, Internet connection for Website resources	1
Internet Access-email		1
IV Supplies	Bag and tubing	1
IV Supplies	Pole with wheels	1
Laptop	With accessories	1
LCD Projector		1
Listening Center	With headphones	2
Meter sticks or metric rulers		Multiple
Monitor	Computer	5
Multi-Dose Vials*		Multiple
Occupational Outlook Handbook		3
Paper Towel Dispenser	Wall mount	1 per sink
Physician Desk Reference (PDR)		Multiple
Projection Screen		1
Projector-overhead		1
Scales	Infant with metric and standard	1
Scales	Adult with height measurement – metric and standard	1
Scanner	Adult with height measurement- metric and standard	1
Skeleton	Full size with stand	1
Soap*	Bar, liquid, hand scrub and germicidal	2

Soap Dispenser	Wall mount	1 per sink
Stopwatch		Multiple
Syringes*	TB, insulin, 3 cc., 5 cc., 10 cc, etc.	Multiple
Telephone		1
Tripod		1
TV/VCR/DVD Combo		1
TVVCR/Monitor		1
TV/VCR or DVD Portable Cart		1
Voice Mail System	Monthly rate	1

**\*Consumable Items**

## HEALTH SCIENCE PROGRAMS

### Course: Holistic Health & Health and Wellness

#### Equipment and Supply Lists

ITEM	ITEM DESCRIPTION	QUANTITY
Anatomical Models	Various Parts of the body	Multiple
Audio Visuals		Multiple
Audiometer		1
Balance Scale		1
BBP Cleanup Kit		1
Biohazard Container	Puncture resistant	1
Bleach Wipes		Multiple
BP Simulators		1
Camera	35 mm, video or digital with case	1
Charts	Anatomical	Multiple
Charts	Physiology	Multiple
Charts	Nutritional	Multiple
Charts	Careers	Multiple
Charts	Growth & Development	Multiple
Clinitest		Multiple
Clock	24 hr. with second hand	1
Color Blind Chart		1
Computer Software		Multiple
Computer Laser Color Printer		1-2
Computers with CD ROM	Meeting KETS standards	6-12
Computer Workstations		6-12
Photo Copier		1
Dean Vaughn Anatomy		1
Dental Models (full dentition)	Full and partial dentition	2
Dictionary	Dental and Medical	Multiple
Dishes/utensils	To stimulate patient dining	Multiple
Drug Reference Bok		6
EKG Machine		1

Electronic Projection System	With screen	1
Eyewash Station		1
Gat Calibrator		1
Fatal Vision Glasses Kit		1
Fax Machine		1
Flashlights		6
Glitter bug light		1
Gloves*	Sterile and non-sterile- various sizes – latex and vinal	1 gross
Glucometer		1
Hand Hygiene Supplies		Various
Hamper		1 per unit
Hemoglobinometer		1
HOSA	Handbook, Leadership Videos, Internet connection for Website resources	1
Human Torso	With removable parts	2
Incubator	Culture	1
Instruments and trays	Medical, surgical, dental	Multiple
Internet Access-email		1
Isolation kit	Masks, gloves and gowns	2 doz
Laptop w/accessories		1
LCD Projector		1
Listening Center with headphones		2
Manikin	Adult and geriatric patient care	1 per 3 students
Masks	Isolation, surgical, etc.	Multiple
Meter sticks or metric rulers		Multiple
Micro Hematocrit		1
Microscopes		6
Monitor	Computer	5
Occupational Outlook Handbook		3
Ophthalmoscope		2
Otoscope		1
Paper Towel Dispenser	Wall mount	1 per sink
Penlights		Multiple

Percussion Hammer		1
Physician Desk Reference (PDR)		Multiple
Projection Screen		1
Projector-overhead		1
Pulse Oximeter		1
Reagent Stipes*		Multiple
Refrigerator		1
Safety goggles		Multiple
Scales	Infant with metric and standard	1
Scales	Adult with height measurement-metric and standard	1
Scanner	Computer	1
Scissors	Classroom and Bandage	Multiple
Skeleton	Full size with stand	1
Snellen Eye Chart	Various types	Multiple
Soap	Bar, liquid, hand scrub and germicidal	2
Soap dispenser	Wall mount	1 per sink
Sphygmomanometers	Aneroid (wall or hand) digital/electronic	2 doz
Stethoscope	Single head, dual head and teaching	Multiple
Stopwatch		Multiple
Sundries jars		3
Tape	Adhesive	Multiple
Tape	Sports	Multiple
Telephone		1
Thermometers	Electronic, digital, thermoscope, non-mercury, tympanic, probate covers*	Multiple
Tongue Depressors		Multiple
Tripod		1
Tuning Fork		1
TV/VCR/DVD combo		1
TV/VCR Monitor		1
TV/VCR or DVD Portable Cart		1
Vital Signs Monitor	Electronic	1
Voice Mail System	Monthly rate	1

Wheelchair		2
X-ray Illuminator		1
X-ray Mounts		1
Z-rays	Samples	Multiple

**\*Consumable Items**

## HEALTH SCIENCE PROGRAMS

### Course: Emergency Procedures

#### Equipment and Supply Lists

ITEM	ITEM DESCRIPTION	QUANTITY
AED Trainer		1
Ambu-bag		3
Anatomical Models	Various Parts of the body	Multiple
Backboard		1
Bandages*	Dressings- various sizes	2 doz
Bandages	Cravats	2 doz
Bandages*	Elastic – various sizes	2 doz
Bandages	Triangular	2 doz
BBP Cleanup Kit		1
Biohazard Container	Puncture resistant	1
Black Light		1
Bleach Wipes		Multiple
BP Simulators		1
Camera	35 mm, video or digital with case	1
Charts	Anatomical	Multiple
Charts	Physiology	Multiple
Charts	Careers	Multiple
Clock	24 hr. with second hand	1
Commode Chair		1
Computer Software		Multiple
Computer Laser Color Printer		1-2
Computers with CD ROM	Meeting KETS standards	6-12
Computer Workstations		6-12
Photo Copier		1
Crutches	Adult and adolescent	1 pr. Each
Curtain/Screen	Privacy screen	1 per unit
Drug Reference Bok		6
EKG Machine		1

Electronic Projection System	With screen	1
Eyewash Station		1
Fatal Vision Glasses Kit		1
Fax Machine		1
First Aid Instructors Kit		1
Flashlights		6
Gauze Squares*	2", 3", and 4"	2 doz/ea
Glitter bug light		1
Gloves*	Sterile and non-sterile- various sizes – latex and vinal	1 gross
Hand Hygiene Supplies		Various
Hamper		1 per unit
HOSA	Handbook, Leadership Videos, Internet connection for Website resources	1
Hospital Beds	Electronic and/or manual with side rails	2
Human Torso	With removable parts	2
Ice Packs/Collars		Multiple
Instruments and trays	Medical, surgical, dental	Multiple
Internet Access-email		1
Isolation kit	Masks, gloves and gowns	2 doz
Roll Bandage	2", 3", and 4" rolls	2 doz
Laptop w/accessories		1
Laundry	Contracted and/or Washer and Dryer	
LCD Projector		1
Linens	Patient gowns, towels, wash cloths	2 per unit
Listening Center	With headphones	2
Manikin	Adult CPR	5
Manikin	Adult and geriatric patient care	1 per 3 students
Manikin	Child CPR	1 per 3 students
Manikin	Choking adults, children and infants	2
Manikin	Infant CPR	1 per 3 students
Manikin	Recording CPR	1
Masks	Isolation, surgical, etc.	Multiple
Masks	CPR Training	Multiple

Meter sticks or metric rulers		Multiple
Monitor	Computer	5
Moulage Kit		2
Occupational Outlook Handbook		3
Oxygen Supplies	Masks, tubing and cannulas	Multiple
Padded Board Splints		20
Paper Towel Dispenser	Wall mount	1 per sink
Penlights		Multiple
Pillows		2 per unit
Projection Screen		1
Projector-overhead		1
Pulse Oximeter		1
Refrigerator		1
Safety goggles		Multiple
Scanner	Computer	1
Scissors	Classroom and Bandage	Multiple
Skeleton	Full size with stand	1
Soap	Bar, liquid, hand scrub and germicidal	2
Soap dispenser	Wall mount	1 per sink
Sphygmomanometers	Aneroid (wall or hand) digital/electronic	2 doz
Spinal Immobilization Device	Cervical	4
Splints	Arm and leg	Multiple
Stethoscope	Single head, dual head and teaching	Multiple
Stopwatch		Multiple
Stretcher with rails		1
Sundries jars		3
Tape	Adhesive	Multiple
Tape	Sports	Multiple
Telephone		1
Thermometers	Electronic, digital, thermoscope, non-mercury, tympanic, probate covers*	Multiple
Tongue Depressors		Multiple
Transfer Board		2

Tripod		1
TV/VCR/DVD combo		1
TV/VCR Monitor		1
TV/VCR or DVD Portable Cart		1
Vital Signs Monitor	Electronic	1
Voice Mail System	Monthly rate	1
Wash Basin		1 per unit
X-ray Illuminator		1
X-ray Mounts		1
Z-rays	Samples	Multiple

**\*Consumable Items**

## HEALTH SCIENCE PROGRAMS

### Course: Medicaid Nurse Aide

#### Equipment and Supply Lists

ITEM	ITEM DESCRIPTION	QUANTITY
Acetest*		Multiple
AED Trainer		1
Alcohol Preps*		Multiple
Ambu-bag		3
Anatomical Models	Various Parts of the body	Multiple
Audio Visuals		Multiple
Backboard		1
Bandages*	Sterile- various sizes	Multiple
Bandages*	Dressings- various sizes	2 doz
Bandages	Cravats	2 doz
Bandages	Elastic – various sizes	2 doz
Bandages	Triangular	2 doz
BBP Cleanup Kit		1
Bed Linens	Draw sheet, flat and fitted sheets, pillow cases, pillow covers, blankets, protective pads	1 per unit
Bed Scales		1
Bedpan		1 per unit
Bedside Table		1 per unit
Biohazard Container	Puncture resistant	1
Black Light		1
Bleach Wipes		Multiple
BP Simulators		1
Camera	35 mm, video or digital with case	1
Cane	Straight or 4 – prong	1
Catheters	Various sizes, drainage bags, leg bags, superpubic	Multiple
Chart Rack		1
Charts	Anatomical	Multiple
Charts	Patient	Multiple
Charts	Physiology	Multiple

Charts	Nutritional	Multiple
Chart	Careers	Multiple
Clock	24 hr. with second hand	1
Color Blind Chart		1
Computer Software		Multiple
Computer Laser Color Printer		1-2
Computers with CD ROM	Meeting KETS standards	6-12
Computer Workstations		6-12
Photo Copier		1
Crutches	Adult and adolescent	1 pr. Each
Curtain/Screen	Privacy screen	1 per unit
Dental Models	Full and partial dentition	2
Dentures		Multiple
Denture Cup		Multiple
Dishes/utensils	To simulate patient dining	Multiple
Distilled Water		Multiple
Drug Reference Book		6
Electronic Projection System	With screen	1
Emesis Basin		1 per unit
Enema Supplies		Multiple
Eyewash Station		1
Fatal Vision Glasses Kit		1
Fax Machine		1
Flashlights		6
Foot stool		1 per unit
Fracture Pan		1 per unit
Gait Belt		1 doz.
Gauze Squares*	2", 3", and 4"	2 doz/ea
Geriatric Chair		1
Glitter bug light		1
Gloves*	Sterile, non-sterile, latex and vinyl various sizes	1 gross
Glucometer	With supplies*	1

Hand Hygiene Supplies	Bar soap, liquid soap, hand scrub, hand gel	Various
Hamper		1 per unit
Hemoglobinometer	With removable parts	1
HOSA	Handbook, Leadership Videos, Internet connection for Website resources	1
Hospital Beds	Electronic and/or manual with side rails	2
Human Torso	With removable parts	2
Ice Packs/Collars		Multiple
Instruments and trays	Medical, surgical, dental	Multiple
Internet Access-email		1
Isolation supplies	Masks, gloves and gowns	2 doz
IV Supplies	Bag and tubing	1
IV Supplies	Pole with wheels	1
Roll Bandage	2", 3", and 4" rolls	2 doz
Laptop w/accessories		1
Laundry Service	Contracted and/or Washer and Dryer	
LCD Projector		1
Linens	Patient gowns, towels, wash cloths	2 per unit
Listening Center	With headphones	2
Manikin	Adult CPR and supplies*	5
Manikin	Adult and geriatric patient care	1 per 3 students
Manikin	Choking adults, children and infants	2
Manikin	Infant CPR and supplies*	1 per 3 students
Manikin	Recording CPR and supplies*	1
Masks	Isolation, surgical, etc.	Multiple
Masks	CPR Training	Multiple
Mattress	Egg crate and foam	1 each
Mechanical Lift		1
Meter sticks or metric rulers		Multiple
Microscopes	With supplies*	6
Monitor	Computer	5
Montgomery Straps		Multiple
Moulage Kit	With supplies*	2

Nail Care Supplies	Orange sticks*, emery board*, fingernail/toenail clippers	Multiple
Occupational Outlook Handbook		3
Ophthalmoscope		2
Oral Hygiene Supplies	Toothbrush, toothpaste, floss swabs	Multiple
Ostomy Supplies	Bags and connectors	Multiple
Otoscope		1
Overbed Table		1 per unit
Oxygen Supplies	Masks, tubing and cannulas	Multiple
Padded Board Splints		20
Paper Towel Dispenser	Wall mount	1 per sink
Penlights		Multiple
Percussion Hammer		1
Personal Hygiene Supplies	Lotion, soap, deodorant	Multiple
Pillows		2 per unit
Physician Desk Reference (PDR)		Multiple
Projection Screen		1
Projector-overhead		1
Recording Chart Samples		Multiple
Refrigerator		1
Restraints & Protective Devices	Limb and chest	Multiple
Safety goggles		Multiple
Scales	Adult with height measurement – metric and standard	1
Scanner	Computer	1
Scissors	Classroom and Bandage	Multiple
Shampoo Supplies	Pan, comb, brush, shampoo*	Multiple
Shaving Supplies	Electric, safety, shaving cream*, after-shave lotion*	Multiple
Simulated Blood Typing Kits*		Multiple
Sitz Bath		1
Skeleton	Full size with stand	1
Snellen Eye Chart	Various types	Multiple
Soap	Bar, liquid, hand scrub and germicidal	2
Soap dispenser	Wall mount	1 per sink

Specimen Cup	Sterile and non-sterile	1 doz
Sphygmomanometers	Aneroid (wall or hand) digital/electronic	2 doz
Stethoscope	Single head, dual head and teaching	Multiple
Stopwatch		Multiple
Stretcher with rails		1
Sundries jars		3
Tape	Adhesive	Multiple
TED Hose		Various
Telephone		1
Thermometers	Electronic, digital, thermoscope, non-mercury, tympanic, probate covers*	Multiple
Tongue Depressors		Multiple
Transfer Board		2
Trays	Dietary	1 per unit
Tripod		1
Tubes	ET, trachestomy, PEG, J-tubes, gastrostomy, rectal nephrostomy	Various
Tuning Fork		1
TV/VCR/DVD combo		1
TV/VCR Monitor		1
TV/VCR or DVD Portable Cart		1
Urinal		1 per unit
Urine Specimen Containers	Voided, clean catch, fractional, 24 hour collection	Various
Vital Signs Monitor	Electronic	11
Voice Mail System	Monthly rate	11
Walker		2
Wash Basin		1 per unit
Water Pitcher		1 per unit
Wedge Pillows		1
Wheelchair		2

**\*Consumable Items**

## HEALTH SCIENCE PROGRAMS

### Course: Enhanced Healthcare Skills

#### Equipment and Supply Lists

ITEM	ITEM DESCRIPTION	QUANTITY
Acetest*		Multiple
AED Trainer		1
Alcohol Preps*		Multiple
Anatomical Models	Various Parts of the body	Multiple
Audio Visuals		Multiple
Backboard		1
Bandages*	Sterile- various sizes	Multiple
Bandages*	Dressings- various sizes	2 doz
Bandages	Cravats	2 doz
Bandages	Elastic – various sizes	2 doz
Bandages	Triangular	2 doz
BBP Cleanup Kit		1
Bed Linens	Draw sheet, flat and fitted sheets, pillow cases, pillow covers, blankets, protective pads	1 per unit
Bed Scales		1
Bedpan		1 per unit
Bedside Table		1 per unit
Biohazard Container	Puncture resistant	1
Black Light		1
Bleach Wipes		Multiple
BP Simulators		1
Calculator	Standard, scientific and/or printing	1
Camera	35 mm, video or digital with case	1
Career-Specific Supplies	For Workbased Learning	Multiple
Charts	Anatomical	Multiple
Charts	Patient	Multiple
Charts	Nutritional	Multiple
Charts	Careers	Multiple
Clock	24 hr. with second hand	1

Computer Software		Multiple
Computer Laser Color Printer		1-2
Computers with CD ROM	Meeting KETS standards	6-12
Computer Workstations		6-12
Photo Copier		1
Dental Equipment	Molds and Trays	Multiple
Dictionary	Dental and Medical	Multiple
EKG Machine		1
Electronic Projection System	With screen	1
Eyewash Station		1
Fax Machine		1
Hand Hygiene Supplies		Various
HOSA	Handbook, Leadership Videos, Internet connection for Website resources	1
Human Torso	With removable parts	2
Instruments and trays	Medical, surgical, dental	Multiple
Internet Access-email		1
Laptop w/accessories		1
Laundry Service	Contracted and/or Washer and Dryer	
LCD Projector		1
Linens	Patient gowns, towels, wash cloths	2 per unit
Listening Center	With headphones	2
Manikin	Adult and geriatric patient care	1 per 3 students
Meter sticks or metric rulers		Multiple
Microscopes		6
Monitor	Computer	5
Occupational Outlook Handbook		3
Ophthalmoscope		2
Otoscope		1
Overbed Table		1 per unit
Paper Towel Dispenser	Wall mount	1 per sink
Penlights		Multiple
Physician Desk Reference (PDR)		Multiple

Projection Screen		1
Projector-overhead		1
Refrigerator		1
Scanner	Computer	1
Sitz Bath		1
Soap	Bar, liquid, hand scrub and germicidal	2
Soap dispenser	Wall mount	1 per sink
Stethoscope	Single head, dual head and teaching	Multiple
Stopwatch		Multiple
Stretcher with rails		1
Sundries jars		3
Telephone		1
Tripod		1
TV/VCR/DVD combo		1
TV/VCR Monitor		1
TV/VCR or DVD Portable Cart		1
Voice Mail System	Monthly rate	1

**\*Consumable Items**

## HEALTH SCIENCE PROGRAMS

### Course: Advanced Nursing Assistant

#### Equipment and Supply Lists

ITEM	ITEM DESCRIPTION	QUANTITY
Acetest*		Multiple
AED Trainer		1
Alcohol Preps*		Multiple
Ambu-bag		3
Anatomical Models	Various Parts of the body	Multiple
Audio Visuals		Multiple
Autoclave or Microwave		1
Autoclave tape		4
Backboard		1
Balance scale		1
Bandages*	Sterile- various sizes	
Bandages*	Dressings- various sizes	2 doz
Bandages	Cravats	2 doz
Bandages	Elastic – various sizes	2 doz
Bandages	Triangular	2 doz
BBP Cleanup Kit		1
Bed Linens	Draw sheet, flat and fitted sheets, pillow cases, pillow covers, blankets, protective pads	1 per unit
Bed Scales		1
Bedpan		1 per unit
Bedside Table		1 per unit
Biohazard Container	Puncture resistant	1
Black Light		1
Bleach Wipes		Multiple
BP Simulators		1
Calculator	Standard, scientific and/or printing	1
Camera	35 mm, video or digital with case	1
Cane-straight/quad.	Straight or quad	1
Catheters	with drainage bags/Leg Bags /Superpubic	Multiple

Chart Rack		1
Charts	Anatomical	Multiple
Charts	Patient	Multiple
Charts	Physiology	Multiple
Charts	Nutritional	Multiple
Charts	Careers	Multiple
Charts	Growth and Development	Multiple
Clinitest		Multiple
Clock	24 hr. with second hand	1
Color Blind Chart		1
Commode Chair		1
Computer Software		Multiple
Computer Laser Color Printer		1-2
Computers with CD ROM	Meeting KETS standards	6-12
Computer Workstations		6-12
Photo Copier		1
Crutches	Adult and adolescent	1 pr. each
Curtain/Screen		1 per unit
Dental Models *full dentition)	Full and partial dentition	2
Dentures		Multiple
Denture Cup		Multiple
Dictionary	Dental and Medical	Multiple
Dishes/utensils	To simulate patient dining	Multiple
Distilled Water		Multiple
Drains	Penrose, Hemovac, etc.	Multiple
Dressing Change Supplies	Tranparent, Hydrocolloid, etc.	Multiple
Drug Reference Book		6
EKG Machine		1
Electronic Projection System	With screen	1
Emesis Basin		1per unit
Enema Supplies		Multiple
Eyewash Station		1
Fatal Vision Glasses Kit		1

Fax Machine		1
Flashlights		6
Footstool		1 per unit
Fracture Plan		1 per unit
Gait Belt		1 doz
Gauze Squares	2", 3", and 4"	2 doz/ea
Geriatric Chair		1
Glitter bug light		1
Gloves*	Sterile, non-sterile, latex and vinyl – various sizes	1 gross
Glucometer	With supplies*	1
Hand Hygiene Supplies		Various
Hamper		1 per unit
Hemocult Testing Supplies	With supplies*	Multiple
Hemoglobinometer	With supplies*	1
HOSA	Handbook, Leadership Videos, Internet connection for Website resources	1
Hospital beds	Electric and/or manual with side rails	2
Human Torso	With removable parts	2
Ice Packs/Collars		Multiple
Incubator	Infant	1
Incubator	Culture	1
Instruments and trays	Medical, surgical, dental	Multiple
Internet Access-email		1
Isolation kit	Masks, gloves and gowns	2 doz
IV supplies	Bag and tubing	1
IV supplies	Pole with wheels	1
IV supplies	Starter Kits*	Multiple
Roll Bandage*	2", 3", and 4" rolls	2 doz
Laptop w/accessories		1
Laryngeal Mirror		1
Laundry Service	Contracted and/or Washer and Dryer	
LCD Projector		1
Linens	Patient gowns, towels, wash cloths	2 per unit

Listening Center	With headphones	2
Manikin	Adult CPR	5
Manikin	Adult and geriatric patient care	1 per 3 students
Manikin	Child CPR	1 per 3 students
Manikin	Choking adults, children and infants	2
Manikin	Infant CPR	1 per 3 students
Manikin	Recoding CPR	1
Masks	Isolation, surgical, etc.	Multiple
Masks	CPR Training	Multiple
Mattress	Egg crate and foam	1 each
Mechanical Lift		1
Meter sticks or metric rulers		Multiple
Micro Hematocrit		1
Microscopes		6
Monitor	Computer	5
Montgomery Straps		Multiple
Moulage Kit		2
Nail Care Supplies	Orange sticks, emery board, fingernail and toenail clippers	Multiple
Occupational Outlook Handbook		3
Ophthalmoscope		2
Oral Hygiene Supplies	Toothbrush, toothpaste, floss swabs	Multiple
Ostomy Supplies	Bags and connectors	Multiple
Otoscope		1
Overbed Table		1 per unit
Oxygen Supplies	Masks, tubing and cannulas	Multiple
Padded Board Splints		20
Paper Towel Dispenser	Wall mount	1 per sink
Penlights		Multiple
Percussion Hammer		1
Personal Hygiene Supplies	Lotion, soap, deodorant	Multiple
Petri Dish – Agar medium		Multiple
Pillows		2 per unit

Physician Desk Reference (PDR)		Multiple
Projection Screen		1
Projector-overhead		1
Pulse Oximeter		1
Reagent Strips		Multiple
Recording Chart Samples		Multiple
Refrigerator		1
Restraints & Protective Devices	Limb and chest	Multiple
Saline		Multiple
Safety Goggles		Multiple
Sandbags		Multiple
Scales	Infant with metric and standard	1
Scales	Adult with height measurement – metric and standard	1
Scanner	Computer	1
Scissors	Classroom and Bandage	Multiple
Shampoo Supplies	Pan, comb, brush, shampoo	Multiple
Shaving Supplies	Electric, safety, shaving cream, after-shave lotion	Multiple
Simulated Blood Typing Kits		Multiple
Sitz Bath		1
Skeleton	Full size with stand	1
Snellen Eye Chart	Various types	1
Soap	Bar, liquid, hand scrub and germicidal	2
Soap dispenser	Wall mount	1 per sink
Specimen Cup	Sterile and non-sterile	1 doz
Sphygmomanometers	Aneriod (wall or hand), digital/electronic	2 doz.
Stethoscope	Single head, dual head and teaching	Multiple
Stopwatch		Multiple
Stretcher with rails		1
Sundries jars		3
Suture/Staple Removal Kits		Multiple
Syringes*	TB, insulin, 3 cc., 5 cc., 10 cc, etc.	Multiple
Swab*	Culturette	Multiple

Tape*	Adhesive	Multiple
Tape*	Sports	Multiple
TED Hose		Various
Telephone		1
Thermometers	Electronic, digital, thermoscope, non-mercury, tympanic, probe covers*	Multiple
Tongue Depressors		Multiple
Transfer Board		2
Traction Supplies & Trapeze Bar		Various
Trays	Dietary	1 per unit
Tripod		1
Tubes	ET, tracheostomy, PEG, J-tubes, gastrostomy, rectal nephrostomy	Various
Tuning Fork		1
TV/VCR/DVD combo		1
TV/VCR Monitor		1
TV/VCR or DVD Portable Cart		1
Urinal		1 per unit
Urine Specimen Containers	Voided, clean catch, fractional, 24 hour collection	Various
Urine Strainer		1
Urinometer		1
Vaginal Seculum		1
Vital Signs Monitor	Electronic	1
Voice Mail System	Monthly rate	1
Walker		2
Wash Basin		1 per unit
Water Pitcher		1 per unit
Wedge Pillows		1
Wheelchair		2
Wraps*	Paper (sterile)	1 case

**\*Consumable Items**

## HEALTH SCIENCE PROGRAMS

### Course: Microbiology

#### Equipment and Supply Lists

ITEM	ITEM DESCRIPTION	QUANTITY
Acetest*		Multiple
Alcohol Preps*		Multiple
Anatomical Models	Various Parts of the body	Multiple
Audio Visuals		Multiple
Autoclave or Microwave		1
Autoclave tape		4
BBP Cleanup Kit		1
Biohazard Container	Puncture resistant	1
Black Light		1
Bleach Wipes		Multiple
BP Simulators		1
Camera	35 mm, video or digital with case	1
Centrifuge		1
Charts	Anatomical	Multiple
Charts	Patient	Multiple
Charts	Careers	Multiple
Clinitest		Multiple
Clock	24 hr. with second hand	1
Computer Software		Multiple
Computer Laser Color Printer		1-2
Computers with CD ROM	Meeting KETS standards	6-12
Computer Workstations		6-12
Photo Copier		1
Dissecting Equipment		Multiple
Distilled Water		Multiple
Drug Reference Book		6
Electronic Projection System	With screen	1
Eyewash Station		1

Fax Machine		1
Glitter bug light		1
Gloves*	Sterile, non-sterile, latex and vinyl – various sizes	1 gross
Glucometer		1
Hand Hygiene Supplies		Various
Hemoglobinometer		1
HOSA	Handbook, Leadership Videos, Internet connection for Website resources	1
Human Torso	With removable parts	2
Incubator	Culture	1
Instruments and trays	Medical, surgical, dental	Multiple
Internet Access-email		1
Isolation kit	Masks, gloves and gowns	2 doz
Laptop w/accessories		1
LCD Projector		1
Listening Center	With headphones	2
Masks	Isolation, surgical, etc.	Multiple
Meter sticks or metric rulers		Multiple
Microbiology Culture Kits	Bacteria, Viral, Water, etc.	Various
Micro Hematocrit		1
Microscopes		6
Monitor	Computer	5
Occupational Outlook Handbook		3
Paper Towel Dispenser	Wall mount	1 per sink
Petri Dish – Agar medium		Multiple
Physician Desk Reference (PDR)		Multiple
Prepared Slides of Blood		1
Projection Screen		1
Projector-overhead		1
Pulse Oximeter		1
Reagent Strips		Multiple
Refrigerator		1
Safety Goggles		Multiple

Scanner		Multiple
Scissors	Computer	1
Simulated Blood Typing Kits	Classroom and Bandage	Multiple
Slides		Multiple
Soap	Prepared	Multiple
Soap dispenser	Bar, liquid, hand scrub and germicidal	2
Stains for Blood and Bacteria	Wall mount	1 per sink
Stopwatch		Various
Sundries jars		Multiple
Syringes*		3
Swab*	TB, insulin, 3 cc., 5 cc., 10 cc, etc.	Multiple
Tape*	Culturette	Multiple
Telephone	Adhesive	Multiple
Test tube		1
Test tube basket		4 doz
Test tube forceps		Multiple
Test tube support holders		Multiple
Thermometers		Multiple
Tongue Depressors	Electronic, digital, thermoscope, non-mercury, tympanic, probe covers*	Multiple
Tripod		Multiple
TV/VCR/DVD combo		1
TV/VCR Monitor		1
TV/VCR or DVD Portable Cart		1
Urinometer		1
Voice Mail System		1
Wraps*	Monthly rate	1
	Paper (sterile)	1 case

**\*Consumable Items**

### **ALL SUPPLIES**

Acetest		Multiple
AED Trainer		1
Alcohol Preps		Multiple
Ambu-bag		3
Anatomical Models	Various Parts of the body	Multiple
Audio Visuals		Multiple
Audiometer		1
Autoclave or Microwave		1
Autoclave tape		4
Backboard		1
Balance Scale		1
Bandages	Sterile - various sizes	
Bandages	Dressings - various sizes	2 doz
Bandages	Cravats	2 doz
Bandages	Elastic - various sizes	2 doz
Bandages	Triangular	2 doz
BBP Cleanup Kit		1
Bed Linens	Draw sheet, flat and fitted sheets, pillow cases, pillow covers, blankets, protective pads	1 per unit
Bed Scales		1
Bedpan		1 per unit
Bedside Table		1 per unit
Biohazard Container	Puncture resistant	1
Black Light		1
Bleach Wipes		Multiple
BP Simulators		1
Calculator	Standard, scientific and/or printing	1
Camera	35mm, video or digital with case	1
Cane-straight/quad.	Straight or quad	1
Career-Specific Supplies for Work-Based Learning		Multiple

Catheters with drainage bags/Leg Bags/Superpubic		Multiple
Centrifuge		1
Chart Rack		1
Charts	Anatomical	Multiple
Charts	Patient	Multiple
Charts	Physiology	Multiple
Charts	Nutritional	Multiple
Charts	Careers	Multiple
Charts	Growth & Development	Multiple
Clinitest		Multiple
Clock	24 hr. with second hand	1
Color Blind Chart		1
Commode Chair		1
Computer Software		Multiple
Computer Laser Color Printer		1-2
Computers with CD ROM	Meeting KETS standards	6-12
Computer Workstations		6-12
Photo Copier		1
Crutches	Adult and adolescent	1 pr. Each
Curtain/Screen		1 per unit
Dean Vaughn Anatomy		1
Dean Vaughn Terminology		1
Dental Models (full dentition)	Full and partial dentition	2
Dental Equipment	Molds and Trays	Multiple
Dentures		Multiple
Denture Cup		Multiple
Dictionary	Dental and Medical	Multiple
Dishes/utensils	To simulate patient dining	Multiple
Dissecting Equipment		Multiple
Distilled Water		Multiple
Drains	Penrose, Hemovac, etc.	Multiple

Dressing Change Supplies	Transparent, Hydrocolloid, etc.	Multiple
Drug Reference Book		6
EKG Machine		1
Electronic Projection System w/screen		1
Emesis Basin		1 per unit
Enema Supplies		Multiple
Eyewash Station		1
Fat Calibrator		1
Fatal Vision Glasses Kit		1
Fax Machine		1
First Aid Instructors' Pkt		1
Flashlights		6
Foot Stool		1 per unit
Fracture Pan		1 per unit
Gait Belt		1 doz
Gauze Squares	2", 3", and 4"	2 doz/ea
Geriatric Chair		1
Glitter bug light		1
Gloves	Sterile and nonsterile - various sizes - latex and vinal	1 gross
Glucometer		1
Hand Hygiene Supplies		Various
Hamper		1 per unit
Hemocult Testing Supplies		Multiple
Hemoglobinometer		1
HOSA	Handbook, Leadership Videos, Internet connection for Website resources	1
Hospital Beds	Electric and/or manual with side rails	2
Human Torso with removable parts		2

Ice Packs/Collars		Multiple
Incubator	Infant	1
Incubator	Culture	1
Instruments and trays	Medical, surgical, dental	Multiple
Internet Access-email		1
Isolation kit	Masks, gloves and gowns	2 doz
IV Supplies	Bag and tubing	1
	Pole with wheels	1
	Starter Kits	Multiple
Roll Bandage	2", 3", and 4" rolls	2 doz
Laptop w/accessories		1
Laryngeal Mirror		1
Laundry Service	Contracted and/or Washer and Dryer	
LCD Projector		1
Linens	Patient gowns, towels, washcloths	2 per unit
Listening Center with headphones		2
Manikin	Adult CPR	5
Manikin	Adult and geriatric patient care	1 per 3 students
Manikin	Child CPR	1 per 3 students
Manikin	Choking adults, children and infants	2
Manikin	Infant CPR	1 per 3 students
Manikin	Recording CPR	1
Masks	Isolation, surgical, etc.	Multiple
Masks	CPR Training	Multiple
Mattress	Egg crate and foam	1 each
Mechanical Lift		1
Meter sticks or metric rulers		Multiple
Microbiology Culture Kits	Bacteria, Viral, Water, etc.	Various
Micro Hematocrit		1
Microscopes		6

Monitor	Computer	5
Montgomery Straps		Multiple
Moulage Kit		2
Multi-Dose Vials		Multiple
Nail Care Supplies	Orange sticks, emery board, fingernail and toenail clippers	Multiple
Occupational Outlook Handbook		3
Ophthalmoscope		2
Oral Hygiene Supplies	Toothbrush, toothpaste, floss swabs	Multiple
Ostomy Supplies	Bags and connectors	Multiple
Otoscope		1
Overbed Table		1 per unit
Oxygen Supplies	Masks, tubing and cannulas	Multiple
Padded Board Splints		20
Paper Towel Dispenser	Wall mount	1 per sink
Penlights		Multiple
Percussion Hammer		1
Personal Hygiene Supplies	Lotion, soap, deodorant	Multiple
Petri Dish - Agar Medium		Multiple
Pillows		2 per unit
Physician Desk Reference (PDR)		Multiple
Prepared Slides of Blood		1
Projection Screen		1
Projector-overhead		1
Pulse Oximeter		1
Reagent Strips		Multiple
Recording Chart Samples		Multiple
Refrigerator		1
Restraints & Protective Devices	Limb and chest	Multiple
Saline		Multiple
Safety Goggles		Multiple

Sandbags		Multiple
Scales	Infant with metric and standard	1
Scales	Adult with height measurement - metric and standard	1
Scanner	Computer	1
Scissors	Classroom and Bandage	Multiple
Shampoo Supplies - Pan, Comb, Brush, Shampoo	Pan, comb, brush, shampoo	Multiple
Shaving Supplies - Electric, Safety, Shaving Cream, After- shave Lotion	Electric, safety, shaving cream, after-shave lotion	Multiple
Simulated Blood Typing Kits		Multiple
Sitz Bath		1
Skeleton	Full size with stand	1
Slides	Prepared	Multiple
Snellen Eye Chart	Various types	Multiple
Soap	Bar, liquid, hand scrub and germicidal	2
Soap Dispenser	Wall mount	1 per sink
Specimen Cup	Sterile and non-sterile	1 doz
Sphygmomanometers	Aneroid (wall or hand), digital/electronic	2 doz
Spinal Immobilization Device	Cervical	4
Splints	Arm and leg	Multiple
Stains for Blood & Bacteria		Varies
Stethoscope	Single head, dual head and teaching	Multiple
Stopwatch		Multiple
Stretcher with rails		1
Sundries jars		3
Suture/Staple Removal Kits		Multiple
Syringes	TB, insulin, 3 cc., 5 cc., 10 cc, etc.	Multiple
Swab	Culturette	Multiple
Tape	Adhesive	Multiple
Tape	Sports	Multiple

TED Hose		Various
Telephone		1
Test tube		4 doz
Test tube basket		Multiple
Test tube forceps		Multiple
Test tube support holders		Multiple
Thermometers	Electronic, digital, thermoscope, non-mercury, tympanic, probe covers	Multiple
Tongue Depressors		Multiple
Transfer Board		2
Traction Supplies & Trapeze Bar		Various
Trays	Dietary	1 per unit
Tripod		1
Tubes	ET, trachestomy, PEG, J-tubes, gastrostomy, rectal nephrostomy	Various
Tuning Fork		1
TV/VCR/DVD Combo		1
TV/VCR Monitor		1
TV/VCR or DVD Portable Cart		1
Urinal		1 per unit
Urine Specimen Containers	Voided, clean catch, fractional, 24 hour collection	Various
Urine Strainer		1
Urinometer		1
Vaginal Speculum		1
Vital Signs Monitor	Electronic	1
Voice Mail System	Monthly rate	1
Walker		2
Wash Basin		1 per unit
Water Pitcher		1 per unit
Wedge Pillows		1

Wheelchair		2
Wraps--paper	Paper (sterile)	1 case
X-ray Illuminator		1
X-ray Mounts		1
X-rays	Samples	Multiple

**Kentucky Department of Education Health Science  
Education Program Recommended Equipment and Supply  
List**

Equipment	Quantity	Principles Of HS	Body Structure & FX/ Medical Science	HC Core Skills	Medical Term & Adv Med Term	Medical Math	Holistic Health/ Health & Wellness	Emer. Proc	MNA	Advanced HCS/ Pract.	Adv Nur Assist	Micro
Acetest	Multiple		X						X		X	
AED Trainer	1							X	X		X	
Alcohol Preps	Multiple		X						X		X	
Ambu-bag	3							X	X		X	
Anatomical Models--Various Parts of the Body	Multiple	X	X		X	X	X	X	X		X	
Audio Visuals	Multiple	X	X		X	X	X	X	X		X	X
Audiometer	1						X					
Autoclave or Microwave	1		X								X	X
Autoclave tape	4		X								X	X
Backboard	1							X	X		X	
Balance Scale	1		X			X	X				X	
Bandages/Sterile									X		X	
Bandages/Dressings	2 doz		X					X	X		X	
Bandages--Cravats	2 doz		X					X	X		X	
Bandages--Elastic	2 doz		X					X	X		X	
Bandages-- Triangular	2 doz		X					X	X		X	
BBP Cleanup Kit	1	X	X		X	X	X	X	X		X	X
Bed-Manual with mattress/side rails	1 per unit	X							X		X	
Bed Scales	1								X		X	
Bedpan	1 per unit								X		X	
Bedside Table	1 per unit	X							X		X	
Biohazard Container- puncture resistant	1	X	X		X	X	X	X	X		X	X
Black Light	1	X	X						X		X	X
Bleach Wipes	Multiple	X	X				X	X	X		X	X
BP Simulators	1	X	X				X	X	X		X	
Calculator-printing	1	X				X						
Calculator -scientific	12	X	X			X						X

<b>Equipment</b>	<b>Quantity</b>	<b>Principles OfHS</b>	<b>CODY Structure &amp; FX Medical Science</b>	<b>Core Skills (Co- Op)</b>	<b>Medical Term</b>	<b>Medical Math</b>	<b>Holistic Health &amp; Wellness</b>	<b>Emer. Proc.</b>	<b>MNA</b>	<b>Advanced HCS/ Pract.</b>	<b>Adv Nur Assist</b>	<b>Micro</b>
Camera-35mm or digital with case	1	X	X		X	X	X	X	X		X	X
Camera--video	1	X	X		X	X	X	X	X		X	X
Cane-straight/quad.	1								X		X	
Career-Specific Supplies for Work based Learning	Multiple			X						X		
Catheters with drainage bags/Leg Bags/Superpubic	Multiple		X						X		X	
Centrifuge	1		X									X
Chart Rack	1	X							X		X	
Charts-Anatomical	Multiple	X	X		X	X	X	X	X		X	X
Charts-Patient	Multiple	X	X					X	X		X	
Charts-Physiology	Multiple	X	X				X	X	X		X	X
Charts-Nutritional	Multiple	X	X				X		X		X	
Charts-Careers	Multiple	X	X		X	X	X	X	X		X	X
Charts--Growth & Development	Multiple		X		X		X				X	
Clinitest	Multiple		X								X	
Clock-24 hr. w/second hand	1	X	X		X	X	X	X	X		X	X
Color Blind Chart	1	X	X				X		X		X	
Commode Chair	1										X	
Computer Software	Multiple	X	X		X	X	X	X	X		X	X
Computer Laser Color Printer	1-2	X	X		X	X	X	X	X		X	X
Computers with CD ROM-KETS Standards	6-12	X	X		X	X	X	X	X		X	X
Computer Workstations	6-12	X	X		X	X	X	X	X		X	X
Copier	1	X	X		X	X	X	X	X		X	X
Crutches-adult and adolescent	1 pro Each		X					X	X		X	
Curtain/Screen	1 per unit	X						X	X		X	
Dean Vaughn Anatomy	1		X		X							
Dean Vaughn Terminology	1	X	X		X							

Equipment	Quantity	Principles Of HS	tooy Structure & FX Medical Science	HL> Core Skills (Co- Op)	Medical Term	Medical Math	Holistic Health Health & Wellness	Emer. Proc.	MNA	Advanced HCS/ Pract.	Adv Nur Assist	Micro
Dental Models (full dentition)	2	X	X						X		X	
Dental Molds	Varies											
Dental Trays	Varies											
Dentures	Multiple								X		X	
Denture Cup	Multiple								X		X	
Dictionary-dental	Multiple	X	X		X		X				X	
Dictionary--medical	Multiple	X	X		X	X	X	X	X		X	X
Dishes/utensils	Multiple	X	X				X		X		X	
Dissecting Equipment	Multiple	X	X									
Distilled Water	Multiple		X			X			X		X	X
Drains - Penrose, Hemovac, etc.	Various										X	
Dressing Change Supplies - Transparent, Hydrocolloid, etc.	Multiple										X	
Drug Reference Book	6	X	X		X	X	X	X	X		X	X
EKG Machine	1	X	X					X			X	
Electronic Projection System w/screen	1	X	X		X	X	X	X	X		X	X
Emesis Basin	1 per unit		X					X	X		X	
Enema Supplies	Multiple								X		X	
Eyewash Station	1	X	X		X	X	X	X	X		X	X
Fat Calibrator	1	X	X				X					
Fatal Vision Glasses Kit	1	X	X				X	X	X		X	
Fax Machine	1	X	X		X	X	X	X	X		X	X
First Aid Instructors' Pkt	1							X				
Flashlights	6	X	X				X	X	X		X	
Foot Stool	1 per unit								X		X	
Fracture Pan	1 per unit								X		X	
Gait Belt	1 doz								X		X	
Gauze Squares-2,3 & 4 inch	2 doz/ea	X						X	X		X	
Geriatric Chair	1								X		X	
Glitter bug light	1	X	X				X	X	X		X	X

<b>Equipment</b>	<b>Quantity</b>	<b>Principles Of HS</b>	<b>Body Structure &amp;FX Medical Science</b>	<b>HC Core Skills (Co- Op)</b>	<b>Medical Term</b>	<b>Medical Math</b>	<b>Holistic Health &amp; Wellness</b>	<b>Emer. Proc.</b>	<b>MNA</b>	<b>Advanced HCS/ Pract.</b>	<b>Adv Nur Assist</b>	<b>Micro</b>
Gloves-sterile/nonsterile	1 gross	X	X			X	X	X	X		X	X
Glucometer	1		X				X	X	X		X	X
<b>Hand</b> Hygiene Supplies	Various	X	X		X	X	X	X	X		X	X
Hamper	1 per unit	X	X				X	X	X		X	
Hemocult Testing Supplies	Multiple										X	
Hemoglobinometer	1	X	X				X		X		X	X
HOSA Handbook	1	X	X		X	X	X	X	X		X	X
HOSA Leadership Videos	Multiple	X	X		X	X	X	X	X		X	X
Hospital Beds-electric with side rails	2	X						X	X		X	
Human Torso with removable parts	2	X	X		X		X	X	X		X	X
Ice Packs/Collars	Multiple							X	X		X	
Incubator-infant	1										X	
Incubator - Culture	1	X	X								X	X
Instruments and trays- medical, surgical, dental	Multiple	X	X		X		X	X	X		X	X
Internet Access-email	1	X	X		X	X	X	X	X		X	X
Isolation kit (mask, glove, & gown)	2 doz	X	X				X	X	X		X	X
IV Bag and Tubing	1	X				X			X		X	
IV Pole with Wheels	1					X			X		X	
IV Starter Kits	Multiple										X	
Kling Bandage- 2, 3, 4 inch Rolls	2 doz	X	X					X	X		X	
Laptop w/accessories	1	X	X		X	X	X	X	X		X	X
Laryngeal Mirror	1										X	
Laundry Service or equivalent		X						X	X		X	
LCD Projector	1	X	X		X	X	X	X	X		X	X
Linens (bed)--Draw sheet, flat and fitted sheets, pillow cases, pillow covers, blankets, gowns, protective pads	2 per unit	X						X	X		X	

<b>Equipment</b>	<b>Quantity</b>	<b>Principles Of HS</b>	<b>Body Structure &amp; FX Medical Science</b>	<b>HC Core Skills (Co- Op)</b>	<b>Medical Term</b>	<b>Medical Math</b>	<b>Holistic Health &amp; Wellness</b>	<b>Emer. Proc.</b>	<b>MNA</b>	<b>Advanced HCSI Pract.</b>	<b>Adv Nur Assist</b>	<b>Micro</b>
Listening Center with headphones	2	X	X		X	X	X	X	X		X	X
Manikin-adult CPR	5	X						X	X		X	
Manikin-Adult & Geriatric patient care	1 per 3 students	X	X					X	X		X	
Manikin-child CPR	1 per 3 students	X						X			X	
Manikin-choking	2	X						X	X		X	
Manikin-infant CPR	1 per 3 students	X						X	X		X	
Manikin-recording CPR	1	X						X	X		X	
Masks	20	X	X				X	X	X		X	X
Masks-CPR Training	Multiple	X						X	X		X	
Mattress (egg crate and foam)	1 each								X		X	
Mechanical Lift	1								X		X	
Meter sticks or metric rulers	Multiple	X	X		X	X		X	X		X	X
Microbiology Culture Kits (Bateria, Viral, Water, etc.)	Various											X
Micro Hematocrit	1		X				X				X	X
Microscopes	6	X	X				X		X		X	X
Monitor-computer	5	X	X		X	X	X	X	X		X	X
Montgomery Straps	Multiple								X		X	
Moulage Kit	2							X	X		X	
Mult-Dose Vials	Multiple					X						
Nail Care Supplies - Orange Sticks, Emery Board, Fingernail and Toenail Clippers	Multiple								X		X	
Occupational Outlook Handbook	3	X	X		X	X	X	X	X		X	X
Ophthalmoscope	1	X	X		X		X		X		X	

<b>Equipment</b>	<b>Quantity</b>	<b>Principles Of HS</b>	<b>Body Structure &amp;FX Medical Science</b>	<b>HC Core Skills (Co- Op)</b>	<b>Medical Term</b>	<b>Medical Math</b>	<b>Holistic Health Health &amp; Wellness</b>	<b>Emer. Proc.</b>	<b>MNA</b>	<b>Advanced HCS/ Pract.</b>	<b>Adv Nur Assist</b>	<b>Micro</b>
Oral Hygiene Supplies - Toothbrush, toothpaste, floss, swabs	Multiple								X		X	
Ostomy Supplies	Multiple								X		X	
Otoscope	1	X	X		X		X		X		X	
Overbed Table	1 per unit								X		X	
Oxygen Masks and Tubing/Cannulas	Multiple	X			X			X	X		X	
Padded Board Splints	20	X						X			X	
Paper Towel Dispenser(Wall Mount)	1 per sink	X	X		X	X	X	X	X		X	X
Penlights	Multiple	X	X				X	X	X		X	
Percussion Hammer	1	X	X						X		X	
Personal Hygiene Supplies - Lotion, Soap, Deodorant	Multiple								X		X	
Petri Dish - Agar Medium	Multiple	X									X	X
Pillows	2 per unit	X	X					X	X		X	
Physician Desk Reference (PDR)	Multiple	X	X			X	X		X		X	X
Prepared Slides of Blood	1		X									X
Projection Screen	1	X	X		X	X	X	X	X		X	X
Projector-overhead	1	X	X		X	X	X	X	X		X	X
Pulse Oximeter	1	X	X		X		X	X			X	X
Reagent Strips	Multiple		X				X				X	X
Recording Chart Samples	Multiple	X							X		X	
Refrigerator	1	X	X				X	X	X		X	X
Restraints & Protective Devices-limb and chest	Multiple								X		X	
Saline	Multiple										X	X
Safety Goggles	Multiple	X	X				X	X	X		X	X
Sandbags	Multiple										X	
Scales-infant w/metric & standard	1					X	X				X	
Scales with Height Measure- Metric/Standard	1	X	X			X	X		X		X	

<b>Equipment</b>	<b>Quantity</b>	<b>Principles Of HS</b>	<b>Body Structure &amp;FX Medical Science</b>	<b>HC Core Skills (Co- Op)</b>	<b>Medical Term</b>	<b>Medical Math</b>	<b>Holistic Health &amp; Wellness</b>	<b>Emer. Proc.</b>	<b>MNA</b>	<b>Advanced HCS! Pract.</b>	<b>Adv Nur Assist</b>	<b>Micro</b>
Scanner--computer	1	X	X		X	X	X	X	X		X	X
Scissors· bandage	Multiple	X	X				X	X	X		X	X
Shampoo Supplies - Pan, Comb, Brush, Shampoo	Multiple								X		X	
Shaving Supplies· Electric, Safety, Shaving Cream, After-shave Lotion	Multiple								X		X	
Simulated Blood Typing Kits	Multiple	X	X									X
Sitz Bath	1								X		X	
Skeleton full size with stand	1	X	X		X	X	X	X	X		X	
Slides-prepared	Multiple		X									X
Snellen Eye Chart--variety	Multiple	X	X				X		X		X	
Soap·Hand Scrub! Germicidal	2	X	X		X	X	X	X	X		X	X
Soap Dispenser (Wall Mount)	1 per sink	X	X		X	X	X	X	X		X	X
Specimen Cup	1 doz								X		X	
Sphygmomanometers-- aneroid (wall or hand) digital/electronic	2 doz	X	X				X	X	X		X	
Spinal Immobilization Devices-Cervical	4	X	X					X				
Splints - Arm, leg	Multiple	X	X					X				
Stains for Blood & Bacteria	Varies		X									X
Stethoscope --Single Head	Multiple	X	X				X	X	X		X	
Stethoscope-Teaching	6	X	X				X	X	X		X	
Stethoscopes--Dual Head	12	X	X				X	X	X		X	
Stopwatch	1 per group	X	X		X	X	X	X	X		X	X
Stretcher with rails	1	X						X	X		X	
Sundries jars	3	X	X				X	X	X		X	
Surgical Instruments	Multiple	X	X		X		X	X	X		X	X
Suture/Staple Removal Kits	Multiple										X	
Syringes· TB, Insulin, 3 cc, 5 cc, 10 cc, etc.	Multiple					X					X	X

Equipment	Quantity	Principles Of HS	Body Structure & FX Medical Science	HC Core Skills (Co- Op)	Medical Term	Medical Math	Holistic Health & Wellness	Emer. Proc.	MNA	Advanced HCSI Pract.	Adv Nur Assist	Micro
Swab - Culturette	Multiple	X	X								X	X
Tape--Adhesive	Multiple	X					X	X	X		X	X
Tape--Sports	Multiple	X						X				
TED Hose	Various								X		X	
Telephone	1	X	X		X	X	X	X	X		X	X
Test tube	4 doz		X									X
Test tube basket	Multiple		X									X
Test tube forceps	Multiple		X									X
Test tube support holders	Multiple		X									X
Thermometers( Electronic, Digital IVAC, thermoscope, non-mercury, Tympanic, probe covers)	Multiple	X	X				X	X	X		X	X
Tongue Depressors	Multiple	X	X					X	X		X	X
Transfer Board	2							X	X		X	
Traction Supplies & Trapeze Bar	Various										X	
Trays-dietary	1 per unit	X							X		X	
Tripod	1	X	X		X	X	X	X	X		X	X
Tubes - ET,Trachestomy, PEG, J-tubes, Gastrostomy, Rectal, Nephrostomy	Various								X		X	
Tuning Fork	1	X	X						X		X	
TVNCR/DVD Combo	1	X	X		X	X	X	X	X		X	X
TVNCR Monitor	1	X	X		X	X	X	X	X		X	X
TVNCR or DVD Portable Cart	1	X	X		X	X	X	X	X		X	X
Urinal	1 per unit								X		X	
Urine Specimen Containers (Voided, Clean Cath, Fractional, 24 hour collection)	Various								X		X	
Urine Strainer	1										X	
Urinometer	1		X								X	X

<b>Equipment</b>	<b>Quantity</b>	<b>Principles Of HS</b>	<b>Body Structure &amp; FX 'Medical Science</b>	<b>HC Core Skills (Co- Op)</b>	<b>Medical Term</b>	<b>Medical Math</b>	<b>Holistic Health 'Health &amp; Wellness</b>	<b>Emer. Proc.</b>	<b>MNA</b>	<b>Advanced HCS/ Pract.</b>	<b>Adv Nur Assist</b>	<b>Micro</b>
Vaginal Speculum	1										X	
Vital Signs Monitor- electronic	1						X	X	X		X	
Voice Mail System (monthly rate)	1	X	X		X	X	X	X	X		X	X
Walker	2								X		X	
Wash Basin	1 per unit							X	X		X	
Washcloth/towels	1								X		X	
Water Pitcher	1 per unit								X		X	
Wedge Pillows	1								X		X	
Wheelchair	2								X		X	
Wraps--paper (sterile)	1 case		X								X	X
X-ray Illuminator	1	X	X		X		X	X				
X-ray Mounts	1	X	X		X		X	X				
X-rays (samples)	Multiple	X	X		X		X	X				

# INDUSTRIAL EDUCATION FACILITY GUIDE



# INDUSTRIAL EDUCATION

- OVERVIEW
- GENERAL SPECIFICATIONS
- SAMPLE ROOM LAYOUTS
- RECOMMENDED  
EQUIPMENT LISTS



## **Industrial Education Program**

The following information is provided to assist the local high school or locally operated career and technical center in the development of a comprehensive Industrial Education Program. This program has changed during the past few years to address seamless education in Kentucky. Courses are available for students to concentrate on specific areas in industrial education. The program curriculum is aligned with the Kentucky skill Standards and Kentucky Core Content for Assessment.

Standards are included as minimum and should serve as a "starting point" for new and innovative programs. Some programs may choose to design their own floor plan layout for arrangement of equipment. In order to have a total program, students should have access to career majors. Equipment and supply lists are available for individual courses. A complete listing of courses and equipment can be found at [www.KYTechcurriculum.org](http://www.KYTechcurriculum.org). The courses match the courses offered in the Kentucky Community and Technical College System.

The initial expense for developing a new program is perhaps one of the most costly of all Career and Technical Education programs. The cost of equipment will be the major expense. However, many equipment items may be obtained as a donation from business and industry. In this situation, the school should ensure that the equipment meets the standards set forth in this document and meet all OSHA guidelines for safety. Supplies should be replenished annually. The quantities may vary depending on the course and number of students.

For more information about Industrial Education programs in the high school, contact the Kentucky Department of Education, Division of Career and Technical Education, 500 Mero Street, Frankfort, KY 40601 or by calling (502) 564-3775.

**INDUSTRIAL EDUCATION PROGRAMS shall be provided in accordance with the following table:**

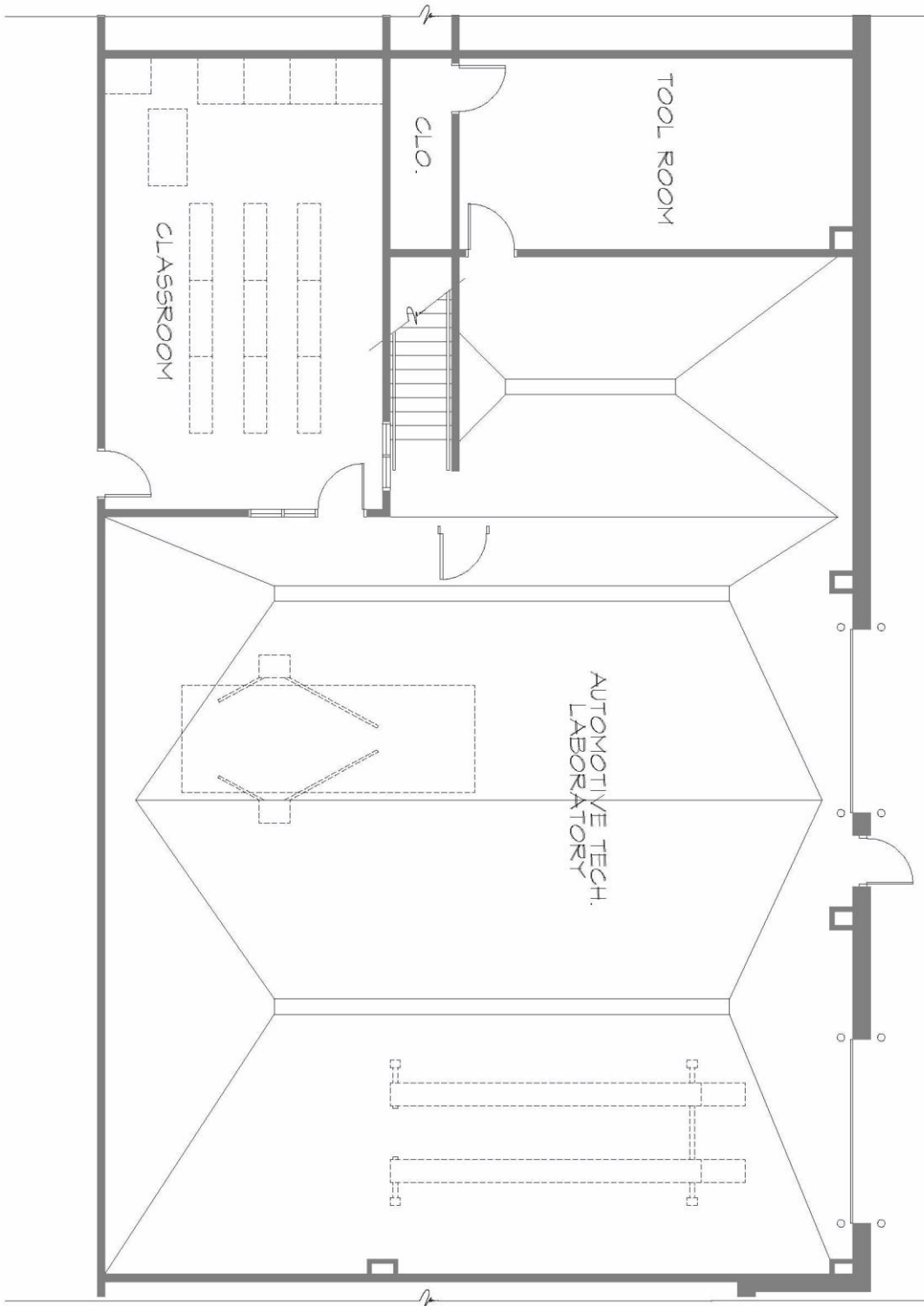
**INDUSTRIAL EDUCATION**

Grade Level	Minimum Unit Area (Square Feet)	Unit/Student Ratio
Elementary	N.A.	N.A.
Middle/Junior High	750	1/150
High	3250	1/150

**The Minimum Standards as given by the following table shall be provided in each Industrial Education Instructional Program:**

**MINIMUM INDUSTRIAL EDUCATION INSTRUCTIONAL UNIT STANDARDS**

Standard	Minimum	
	Support Space	Laboratory
Student Capacity	N.A.	Average = 24 students; Laboratory: for (12-14) two-student workstations; Advanced Lab: work stations as required by program
Ceiling Height	8' - 8"	12' - 0"
Room Dimension	8' - 0"	22' - 0"
Artificial Illumination	50 foot candles	Two - level with 50 foot candles maximum; reduce veiling effects on CRT screens
Markerboard	N.A.	48 Square feet in the Classroom area
Tack board	N.A.	48 Square feet in the classroom area, with 48 LF of tack strip distributed as required
Finishes	Low maintenance	Low maintenance
Storage	See b.11.2	Storage space for teaching materials, projects
Technology	Voice, data and video outlets at (1) teacher station; Data outlets at each student station; Power outlets at each computer and video outlet	
Equipment	Per examples 10.21-10.32	
Utilities	Water, electric, sewer	
Special Features		



PROJECT NO: 2008-051  
 DRAWN BY: JDS/14  
 CHECKED BY: JDS/14  
 APPROVED BY: T-11-2008  
 REVISIONS:

INDUSTRIAL TECHNOLOGY AUTOMOTIVE LAB  
 KENTUCKY DEPARTMENT OF EDUCATION  
 Division of Career and Technical Education  
 500 Mero Street 219 Capital Plaza Tower  
 Frankfort, Ky 40601

HDDS inc.  
 2008-051  
 WEST MARKET STREET  
 LOUISVILLE, KENTUCKY  
 40202-3800  
 TEL: 502.303.3000  
 FAX: 502.303.3000  
 WWW.HDDSI.COM

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2008.091  
**DRAWN BY:**  
HDS Inc  
**CHECKED BY:**  
HDS Inc  
**APPROVED BY:**  
**PLOT DATE:**  
7-14-2008  
**REVISIONS:**

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**INDUSTRIAL TECHNOLOGY CONSTRUCTION LAB**  
**KENTUCKY DEPARTMENT OF EDUCATION**  
Division of Career and Technical Education  
500 Mero Street 219 Capital Plaza Tower  
Frankfort, Ky 40601

**HDDS inc**  
WEST MARKET STREET  
FRANKFORT, KY 40601  
40608-3800  
502-509-2008 VOICE  
502-509-2100 FAX  
1-800-877-7418 FAX  
WWW.HDDSI.COM



**WEST TITLE**  
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14 of 27  
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DESIGNED AND MANUFACTURED  
BY THE KENTUCKY DEPARTMENT OF  
EDUCATION

**PROJECT NO:** 2008.031  
**DRAWN BY:** H-228, Inc.  
**CHECKED BY:**  
**APPROVED BY:**  
**PLLOT DATE:** 7-11-2008  
**REVISIONS:**

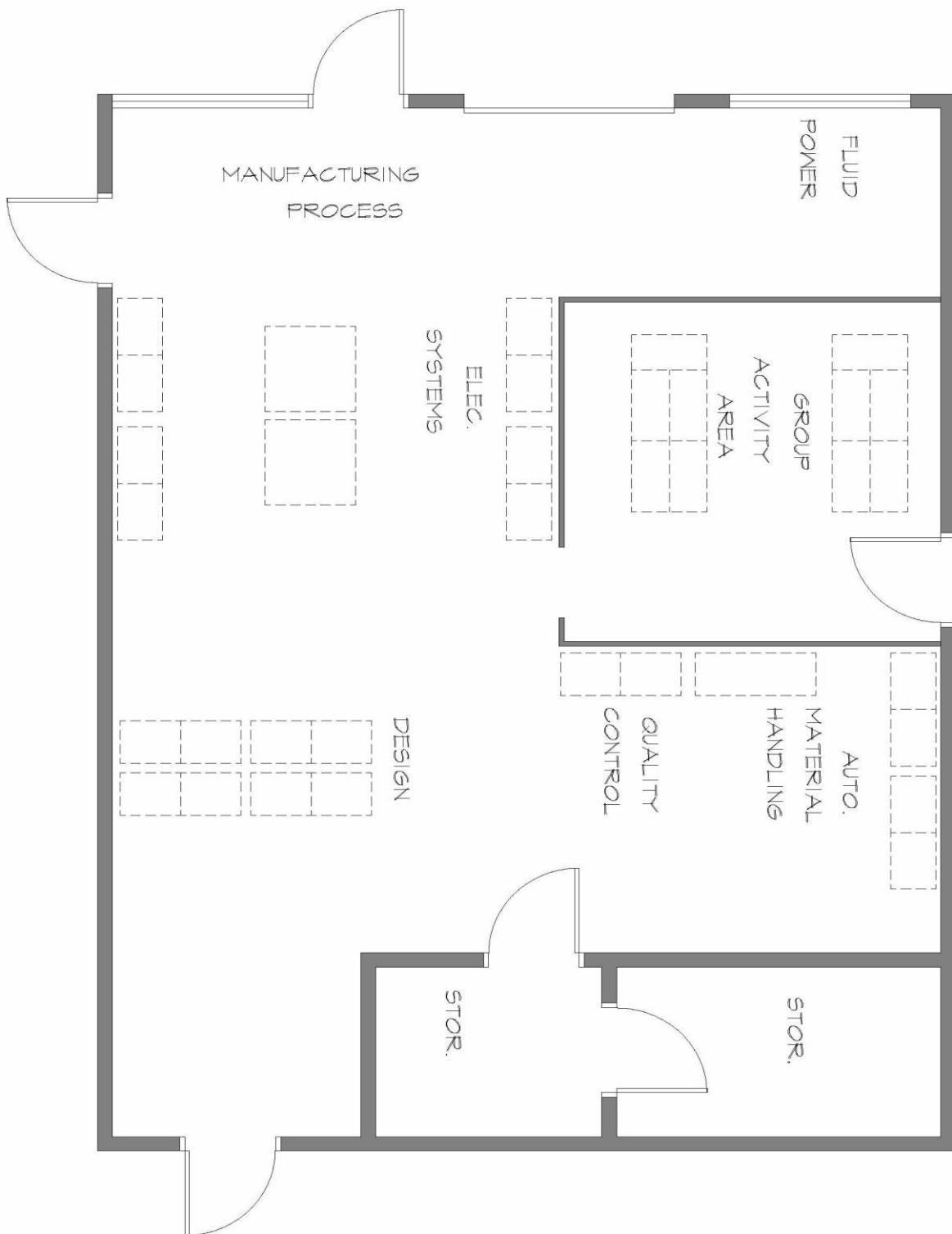

**INDUSTRIAL TECHNOLOGY MANUFACTURING LAB**  
**KENTUCKY DEPARTMENT OF EDUCATION**  
Division of Career and Technical Education  
500 Mero Street 2119 Capital Plaza Tower  
Frankfort, Ky 40601



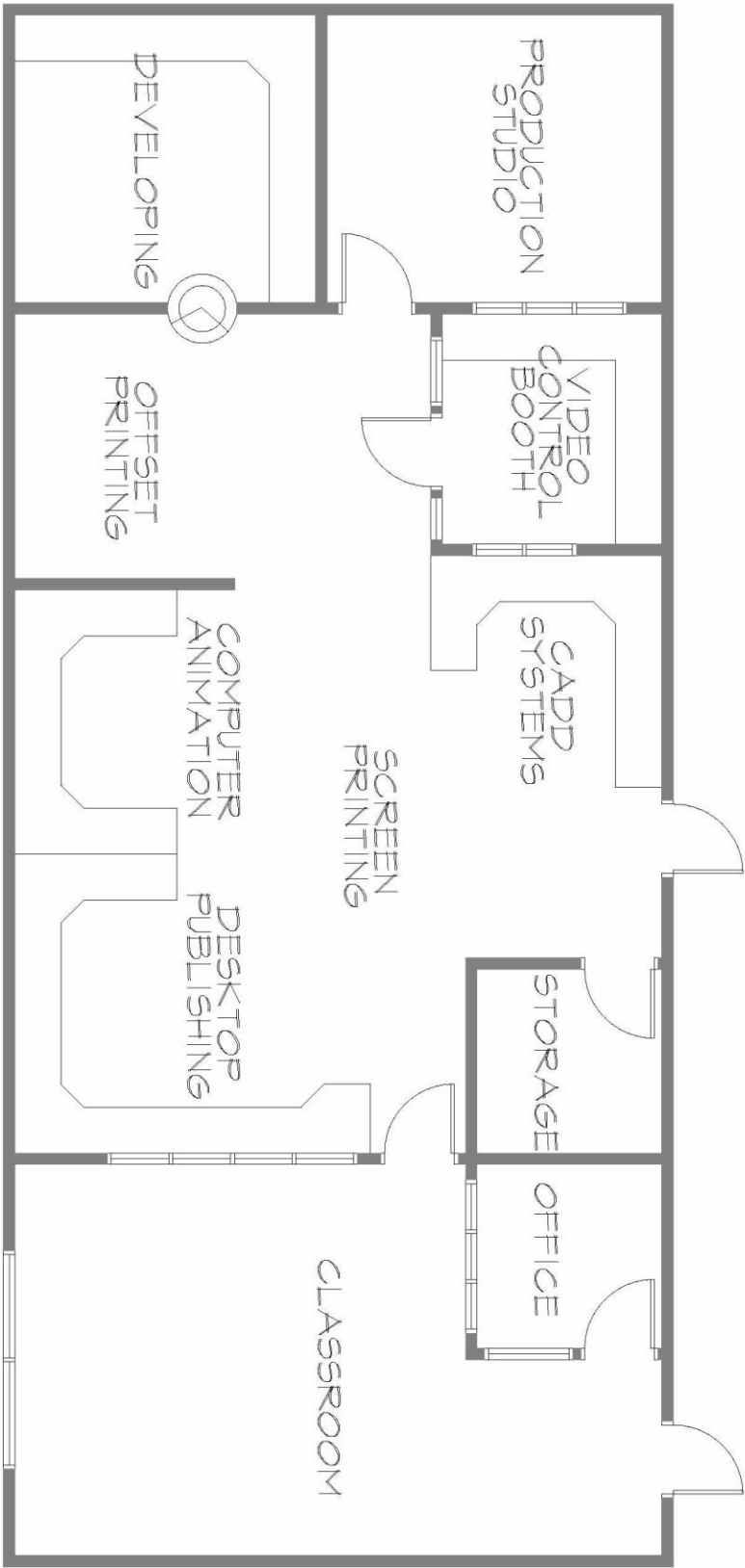
**HDDS inc**

**WEST MARKET STREET**  
**SUITE 101**  
**LOUISVILLE, KENTUCKY**  
**40203-5800**

**TEL: 502-262-9000**  
**FAX: 502-262-9000**  
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PROJECT NO: 2009-001  
DRAWN BY: BT  
CHECKED BY: BT  
APPROVED BY: BT  
PLOT DATE: 6/17/2008  
REVISIONS:

IN THIS GUIDE AND THE PROGRAM OVERVIEW, SPECIFIC MODULE  
OPTIONS ARE TO BE DETERMINED BY EACH SCHOOL AND ARE OUTLINED

COMMUNICATION SYSTEMS LAB DESIGN  
KENTUCKY DEPARTMENT OF EDUCATION  
Division of Career and Technical Education  
Frankfort, Ky 40601  
500 Mero Street 2119 Capital Plaza Tower



HDDS  
inc

WEST MARKET STREET  
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# The Kentucky Tech Curriculum

Office of Career and Technical Education

Equal Education Opportunities M/F/D

## EQUIPMENT/SUPPLIES

Effective: 12/6/2007

### BA 120 Welding Personal Finance

#### Supplies (Consumables)

Quantity	Item	Source
1 per student	Diskettes	
	Dry Erase Markers	
	File Folders/Labels	
20	Newspapers	
20	Rulers	

#### Supplies (Nonconsumables)

Quantity	Item	Source
	Dry Erase Board	

#### Hand Tools/Sets (Individual Items Under \$100)

Quantity	Item	Source
20	Calculators (Hand held, Electronic)	

#### Small Equipment/Trainers (Individual Items \$100-\$999)

Quantity	Item	Source
	Binder Machine	
	Camcorder	
	CD Burner/Writer	
20	Chairs	
	Color Printer	
	Digital Camera	
	Paper Cutter	
	Paper Shredder	
20	Student Desks	
1	White Board	

#### Large Equipment/Trainers (Individual Items \$1000+)

Quantity	Item	Source
20	Computer Workstations	
1	Interactive Projector	
1	Smart Board	

### The Kentucky Tech Curriculum

Office of Career and Technical Education

Equal Education Opportunities M/F/D

### EQUIPMENT/SUPPLIES

Effective: 12/6/2007

### BRX 120      Welding Basic Blueprint Reading

#### Supplies (Consumables)

Quantity	Item	Source
4	Calipers (Dial)	
	Paper (Graph)	
100	Pencils	
18	Rulers	
3	Scale (6", 1/64")	
4	Tape Measure (25')	

### The Kentucky Tech Curriculum

Office of Career and Technical Education

Equal Education Opportunities M/F/D

### EQUIPMENT/SUPPLIES

Effective: 12/6/2007

### ISX 100      Welding Industrial Safety

#### Supplies (Consumables)

Quantity	Item	Source
1	Electric Lock-out Station	
6	Fire Extinguishers	
2	First Aid Kits	
1	Right-to-Know Center	
1	Universal Precaution Kit	

**Small Equipment/Trainers (Individual Items \$100-\$999)**

Quantity	Item	Source
3	Fire Blankets	
1	Hazardous Waste Spill Kit	
	TV/VCR	

**Large Equipment/Trainers (Individual Items \$1000+)**

Quantity	Item	Source
1	CPR Dummy	Rent from Red Cross

**The Kentucky Tech Curriculum**

Office of Career and Technical Education

Equal Education Opportunities M/F/D

**EQUIPMENT/SUPPLIES**

Effective: 12/6/2007

**Welding****WLD 100****Oxy-Fuel Systems****Supplies (Consumables)**

Quantity	Item	Source
	Base Metal	
	Drawings and Sketches	
	Ear Plugs	
	Electrodes (Assorted Sizes)	
	Soap Stone	

**Supplies (Nonconsumables)**

Quantity	Item	Source
2 Each	Burning Goggles or Face Shield (#5 Filter Plat/Lens)	
	Burning Goggles or Face Shield	
2 Each	Burning Goggles or Face Shield (#7 Filter Plate/Lens)	
4 Each	Burning Goggles or Face Shield (Clear Cover Plate/Lens)	
	Leather Gloves	
	Leather Jacket	
	Safety Glasses	
	Sleeves or Apron	
	Welders Hat or Skull Cap	

Welding Helmet  
 4 Each Welding Lenses (Clear Cover Plate/Lens)

**Hand Tools/Sets (Individual Items Under \$100)**

Quantity	Item	Source
	10" Vice Grip Clamps	
	10" Vice Grips	
	10-18 Gage Plain Carbon Steel Sheet	
	Carbon Steel Wire Brush	
	Combination Square Set	
	English/Metric Steel Bench Rule 12"	
	File	
	Flints and Tip Cleaner	
	Machine Oxyfuel Gas - Tank Wrench	
	Manual Oxyfuel Gas Cutting Torch - 00-3/0 Cutting Tips	
	Manual Oxyfuel Gas Cutting Torch - 25' Oxyfuel Gas Hose	
	Manual Oxyfuel Gas Cutting Torch - Friction Lighter, Flints and Tin Cleaner	
	Manual Oxyfuel Gas Cutting Torch - Heating Tip	
	Manual Oxyfuel Gas Cutting Torch - Tank Wrench	
	Metal Scribe	
	Overhead Projector	
	Oxyfuel Friction Lighter	
	Pliers (10" Groove or Slip Joint)	
	Pliers (6" Side or Diagonal Cutting)	
	Shielded Metal Arc - Electrode Holder	
	Shielded Metal Arc - Ground Clamp	
	Steel Tape Measure (10')	
	Tank Wrench	
	Vice Grips	
	Wrench (12" Adjustable)	
	Wrenches (Adjustable)	

**Small Equipment/Trainers (Individual Items \$100-\$999)**

Quantity	Item	Source
	Abrasive Cut-Off Saw	
	C-Clamps (8")	
	Computer - Complete	
	Guided Bend Test Jig or Machine	
	Layout or Workbench Steel Topped	
	Light/Medium Duty Torch	
	Manual Oxyfuel Gas Cutting Torch - Accessories	
	Manual Oxyfuel Gas Cutting Torch - Consumable Parts Kit	

Manual Oxyfuel Gas Cutting Torch - Cylinder Cart  
 Manual Oxyfuel Gas Cutting Torch - Oxygen Regulator  
 Manual Oxyfuel Gas Cutting Torch - Part  
 Repair/Replacement Kit  
 Oxyfuel Burning Table with Dross Pan and Replaceable  
 Slats  
 Protective Screens  
 Storage Boxes/Cabinets for Metal & Supplies  
 TV/VCR

**Large Equipment/Trainers (Individual Items \$1000+)**

Quantity	Item	Source
1	LCD Projector	
	Ventilation Equipment	

**The Kentucky Tech Curriculum**

Office of Career and Technical Education

Equal Education Opportunities M/F/D

**EQUIPMENT/SUPPLIES**

Effective: 12/6/2007

**Welding**

**WLD 110**

**Cutting Processes**

**Supplies (Consumables)**

Quantity	Item	Source
2 Each	Burning Goggles or Face Shield (#5 Filter Plate/Lens)	
2 Each	Burning Goggles or Face Shield (#7 Filter Plate/Lens)	
4 Each	Burning Goggles or Face Shield (Clear Cover Plate/Lens)	
4 Boxes	CAC-A Electrodes 1/4"	
4 Boxes	CAC-A Electrodes 1/8"	
4 Boxes	CAC-A Electrodes 3/8"	
4 Boxes	CAC-A Electrodes 5/32"	
	Flints and Tip Cleaner	
	Grinding Wheels	

**Supplies (Nonconsumables)**

Quantity	Item	Source
	Calculator	
	Fire Extinguisher	
	First Aid Kit	
	Leather Gloves	

Leather Jacket  
Safety Glasses

**Hand Tools/Sets (Individual Items Under \$100)**

Quantity	Item	Source
	Combination Square Set	
	English/Metric Steel Bench Rule 12"	
	File	
	Machine Oxyfuel Gas Tank Wrench	
	Manual Oxyfuel Gas Cutting Torch - Heating Tip	
	Manual Oxyfuel Gas Cutting Torch - Tank Wrench	
	Metal Scribe	
	Oxyfuel Friction Lighter	
	Screwdrivers (Phillips & Flat)	
	Steel Tape Measure 10'	
	Vice Grips	
	Wrenches (Adjustable)	

**Small Equipment/Trainers (Individual Items \$100-\$999)**

Quantity	Item	Source
	Air Carbon Arc Cutter Ground Clamp	
	Air Carbon Arc Welder 2/0 Cable Lugs & Connectors	
	Air Carbon Arc Welder 25' 2/0 Electrode Cable	
	Air Carbon Arc Welder 25' 2/0 Workpiece Cable	
	Band Saw	
	Bench Vice	
	Carbide Burn Sets	
	Compressed Air Supply 1/2" Regulator	
	Compressed Air Supply and Accessories	
	Compressed Air Supply M/F Quick Couples and Adaptors	
	Die Grinders	
	Drill Press 1/16" to 1.5" Drill Bits	
	Eye Wash Station	
	Grinder (Right Angle)	
	Guided Bend Test Jig or Machine	
	Layout or Work Bench (Steel Topped)	
	Light/Medium Duty Torch	
	Machine Oxyfuel Gas - 00-2/0 Cutting Tips	
	Machine Oxyfuel Gas - Cutting Torch Assembly	
	Machine Oxyfuel Gas - Fuel Supply	
	Machine Oxyfuel Gas - Oxyfuel Gas Supply	
	Machine Oxyfuel Gas - Oxygen Supply	

Machine Oxyfuel Gas - Parts Repair/Replacement Kit  
 Machine Oxyfuel Gas - Regulator  
 Machine Oxyfuel Gas Cutting Torch - 25' Oxyfuel Gas Hose  
 Machine Oxyfuel Gas Cutting Torch - Consumable Parts Kit  
 Machine Oxyfuel Gas Cutting Torch - Drive Unit (Track  
 Burner)  
 Machine Oxyfuel Gas Cutting Torch - Friction Lighter, Flints  
 and Tin Cleaner  
 Machine Oxyfuel Gas Cutting Torch - Oxygen Regulator  
 Manual Oxyfuel Gas Cutting Torch (Manual or Combination  
 Assembly)  
 Manual Oxyfuel Gas Cutting Torch - 2/0 Gouging Tips  
 Manual Oxyfuel Gas Cutting Torch - 25' Oxyfuel Gas Hose  
 Manual Oxyfuel Gas Cutting Torch - Consumable Parts Kit  
 Manual Oxyfuel Gas Cutting Torch - Cylinder Cart  
 Manual Oxyfuel Gas Cutting Torch - Friction Lighter, Flints  
 and Tin Cleaner  
 Manual Oxyfuel Gas Cutting Torch - Oxygen Regulator  
 Manual Oxyfuel Gas Cutting Torch - Part  
 Repair/Replacement Kit  
 Manual Oxyfuel Gas Cutting Torch with Accessories  
 Manual Oxyfuel Gas Cutting Torch- 00-3/0 Cutting Tips  
 Overhead Monorail 2-Ton Lift  
 Oxyfuel Burning Table with Dross Pan  
 Pedestal Grinder 12" or 14"  
 Pipe Beveling Machine (Flame Cutting)  
 Plasma Arc - Air Regulator  
 Plasma Arc - Consumable Parts Kit  
 Plasma Arc - Min Rating DC CC 300 amp @ 60% Duty  
 Cycle  
 Plasma Arc - Part Repair/Replacement Kit  
 Plasma Arc - Torch (25', Low Volt, Air Primary and Sec)  
 Plasma Arc Cutter  
 Protective Screens  
 Saws  
 Shear  
 Shear 1/4" Capacity  
 Tensile Testing Machine  
 TV/VCR  
 Welding Power Source

**Large Equipment/Trainers (Individual Items \$1000+)**

Quantity	Item	Source
	A-Frame Crane	
	Air Carbon Arc Cutter	
	Cage Cylinder Storage	
	Ironworker (Min 50 Ton)	
	LCD Projector	

Ventilation Equipment

## The Kentucky Tech Curriculum

Office of Career and Technical Education

Equal Education Opportunities M/F/D

## EQUIPMENT/SUPPLIES

Effective: 12/6/2007

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### Welding

#### WLD 111 Cutting Processes Lab

Program Area General Equipment/Supplies

Quantity

Item

Source

See List for WEX 110

## The Kentucky Tech Curriculum

Office of Career and Technical Education

Equal Education Opportunities M/F/D

## EQUIPMENT/SUPPLIES

Effective: 12/6/2007

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### Welding

#### WLD 120 Shielded Metal Arc Welding (SMAW)

Supplies (Consumables)

Quantity

Item

Source

Base Metal

4 Boxes CAC-A Electrodes - 1/4"

4 Boxes CAC-A Electrodes - 1/8"

4 Boxes CAC-A Electrodes - 3/8"

4 Boxes CAC-A Electrodes - 5/32"

Drawings and Sketches

Ear Plugs

Electrodes (Assorted Sizes)

Grinding Wheels

Soap Stone

Supplies (Nonconsumables)

Quantity

Item

Source

	Burning Goggles or Face Shield
2 Each	Burning Goggles or Face Shield (#5 Filter Plate/Lens)
4 Each	Burning Goggles or Face Shield (Clear Cover Plate/Lens)
	Cape
	Leather Gloves
	Leather Jacket
	Safety Glasses
	Sleeves or Apron
	Welder's Hat or Skull Cap
	Welding Helmet
2 Each	Welding Lenses (#1 0 Shaded Filter Plate/Lens)
2 Each	Welding Lenses (#1 2 Shaded Filter Plate/Lens)
4 Each	Welding Lenses (Clear Cover Plate/Lens)

#### Hand Tools/Sets (Individual Items Under \$100)

Quantity	Item	Source
	3/8" Plain Carbon Steel Plate	
	6" Needle Nose Pliers	
	6" Side or Diagonal Cutting Pliers	
	Adjustable Wrench (12")	
	Air Carbon Arc - 2/0 Cable Lugs & Connectors	
	Air Carbon Arc - Ground Clamps	
	Allen or Hex Wrenches	
	Aluminum Sheet (10-18)	
	Calculator	
	Center Punch	
	Cold Chisel	
	Combination Square Set	
	English/Metric Steel Bench Rule 12"	
	File	
	Fillet Gage	
	Fire Extinguisher	
	First Aid Kit	
	Flashlight	
	Flints and Tip Cleaner	
	Gas Metal Arc - 2/0 Cable Lugs and Connects	
	Gas Metal Arc - Consumable Parts Kit	
	Gas Tungsten Arc Accessory Kit	
	Grinders and Accessories (8"-12")	
	Hammer (Chipping)	
	Hammer (Ball Peen)	
	Machine Oxyfuel Gas - 00-2/0 Cutting Tips	

Machine Oxyfuel Gas - 25' Oxyfuel Gas Hose  
 Machine Oxyfuel Gas - Consumable Parts Kit  
 Machine Oxyfuel Gas - Friction Lighter, Flints and Tip  
 Cleaner  
 Machine Oxyfuel Gas - Oxyfuel Gas Supply  
 Machine Oxyfuel Gas - Parts Repair/Replacement Kit  
 Machine Oxyfuel Gas - Tank Wrench  
 Manual Oxyfuel Gas Cutting Torch - 00-3/0 Cutting Tips  
 Manual Oxyfuel Gas Cutting Torch - 2/0 Gouging Tips  
 Manual Oxyfuel Gas Cutting Torch - 25' Oxyfuel Gas Hose  
 Manual Oxyfuel Gas Cutting Torch - Friction Lighter, Flint  
 and Tip Cleaner  
 Manual Oxyfuel Gas Cutting Torch - Heating Tips  
 Manual Oxyfuel Gas Cutting Torch - Tank Wrench  
 Metal Scribe  
 Overhead Projector  
 Oxyfuel Friction Lighter  
 Plain Carbon Steel Sheet (10-18 Gage)  
 Pliers (10" Groove or Slip Joint)  
 Screwdrivers (Phillips & Flat)  
 Shielded Metal Arc - Electrode Holder  
 Shielded Metal Arc - Ground Clamp  
 Shielded Metal Arc 2/0 Cable Lugs and Connectors  
 SMAW Filler Metal - 1/8" E 308 - 15/16"  
 SMAW Filler Metal - 1/8" E 309 - 15/16"  
 SMAW Filler Metal - 1/8" Ni-Rods  
 SMAW Filler Metal - 1/8" Non-Machinable Cast Electrode  
 SMAW Filler Metal - 100# 1/8" E 6010  
 SMAW Filler Metal - 100# 1/8" E 6011  
 SMAW Filler Metal - 100# 1/8" E 7018  
 SMAW Filler Metal - 100# 3/32" E 7018  
 SMAW Filler Metal - 100# 5/32" 6011  
 SMAW Filler Metal 100# 5/32" E 6010  
 SMAW Filler Metal 100# 5/32" E7018  
 Stainless Steel Sheet (10-18)  
 Steel Dividers (6" Min)  
 Tank Wrench  
 Tape Measure (Steel - 10')  
 Vice Grip Clamps (10")  
 Vice Grips  
 Vice Grips (10")  
 Wire Brush (Carbon and Stainless)  
 Wire Brush (Carbon Steel)  
 Wrenches (Adjustable)

Small Equipment/Trainers (Individual Items \$100-\$999)

Quantity	Item	Source
	AC/DC Current - CC 300 Amp	
	Air Carbon Arc Cutter	
	Air Carbon Arc - 25' 2/0 Electrode Cable	
	Air Carbon Arc - 25' 2/0 Workpiece Cable	
	Anvil	
	Bench Vice	
	Brake - Sheet Metal	
	C-Clamps 8"	
	Compressed Air Supply - 1/2" Air Regulator	
	Compressed Air Supply - M/F Quick Couples and Adaptors	
	Compressed Air Supply and Accessories	
	Computer - Complete	
	Drill Press 1/16" to 1.5" Drill Bits	
	Electrode Oven	
	Eye Wash Station	
	Gas Metal Arc - 25' 2/0 Electrode Cable	
	Gas Metal Arc - 25' 2/0 Workpiece Cable	
	Gas Metal Arc - Flow Meters	
	Gas Metal Arc - Ground Clamp	
	Gas Metal Arc - Gun 15'	
	Gas Metal Arc - Parts Repair/Replacement Kit	
	Gas Tungsten Arc - Flow Meter(s)	
	Gas Tungsten Arc - Gas Purge Control	
	Gas Tungsten Arc - High Frequency Control	
	Gas Tungsten Arc - Part Repair/Replacement Kit	
	Gas Tungsten Arc - Torch 25'	
	Gas Tungsten Arc - Water Circulation	
	Grinder (Right Angle)	
	Guided Bend Test Jig or Machine	
	Layout or Workbench Steel Topped	
	Light/Medium Duty Torch	
	Machine Oxyfuel Gas - Drive Unit	
	Machine Oxyfuel Gas - Fuel Gas Regulator	
	Machine Oxyfuel Gas - Fuel Gas Supply	
	Machine Oxyfuel Gas - Oxygen Regulator	
	Machine Oxyfuel Gas - Oxygen Supply	
	Machine Oxyfuel Gas Cutting Torch	
	Manual Oxyfuel Gas Cutting Torch	
	Manual Oxyfuel Gas Cutting Torch - Consumable Parts Kit	
	Manual Oxyfuel Gas Cutting Torch - Cylinder Cart	
	Manual Oxyfuel Gas Cutting Torch - Oxygen Regulator	
	Manual Oxyfuel Gas Cutting Torch - Parts Repair/Replacement Kit	

Manual Oxyfuel Gas Cutting Torch Accessories  
 Mechanical Drafting Equipment  
 Oxyfuel Burning Table with Dross Pan and Replacable  
 Slats  
 Pedestal Grínder (12" or 14")  
 Plasma Arc - Air Regulator  
 Plasma Arc - Consumable Parts Kit  
 Plasma Arc - Parts Repair/Replacement Kit  
 Plasma Arc - Torch (25', Low Volt, Air)  
 Protective Screens  
 Saw (Abrasive Cut-Off)  
 Saw (Band)  
 Shielded Metal Arc - 25' 2/0 Electrode Cable  
 Shielded Metal Arc - 25' 2/0 Workpiece Table  
 Shielded Metal Arc Welder  
 Storage Boxes/Cabinets for Metals and Supplies  
 Tensile Testing Machine with Guided Bend Tester  
 TV/VCR

**Large Equipment/Trainers (Individual Items \$1000+)**

Quantity	Item	Source
	A-Frame Crane	
	Gas Metal Arc - Power Supply	
	Gas Metal Arc - Wire Feeder	
	Gas Tungsten Arc - AC/DC CC Power Supply	
	Ironworker (Min 50 Ton)	
	LCD Projector	
	Metal Moving Equipment (Forklift or Pallet Jack)	
	Multi-Purpose Welder - Gas or Diesel, Portable	
	Overhead Monorail 2-Ton Lift	
	Plasma Arc - DC CC 300 Amp @ 60% Duty Cycle	
	Saw (Horizontal Band)	
	Shear 1/4" Capacity	
	Ventilation Equipment	
	Vertical Milling Machine	

**The Kentucky Tech Curriculum**

Office of Career and Technical Education

Equal Education Opportunities M/F/D

**EQUIPMENT/SUPPLIES**

Effective: 12/6/2007

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**Welding**

**WLD 121****SMAW Fillet Lab**

Program Area General Equipment/Supplies

Quantity

Item

Source

See List for WEX 120

**The Kentucky Tech Curriculum**

Office of Career and Technical Education

Equal Education Opportunities M/F/D

**EQUIPMENT/SUPPLIES**

Effective: 12/6/2007

**Welding****WLD 130****Gas Tungsten Arc Welding**

Supplies (Consumables)

Quantity

Item

Source

Base Metal

Drawings and Sketches

Ear Plugs

Supplies (Nonconsumables)

Quantity

Item

Source

Burning Goggles or Face Shield

2 Each Burning Goggles or Face Shield (#5 Filter Plate/Lens)

2 Each Burning Goggles or Face Shield (#7 Filter Plate/Lens)

4 Each Burning Goggles or Face Shield (Clear Cover Plate/Lens)

Cape

Leather Gloves, Welding

Leather Jacket, Welding

Safety Glasses

Sleeves or Apron

Spectacles with Side Shields or Clear Lens

Welder's Hat or Skull Cap

Welding Helmet

2 Each Welding Lenses (#1 2 Shaded Filter Plate/Lens)

2 Each Welding Lenses (#10 Shaded Filter Plate/Lens)

4 Each Welding Lenses (Clear Cover Plate/Lens)

Hand Tools/Sets (Individual Items Under \$100)

Quantity	Item	Source
	3/8" Plain Carbon Plate Sheet	
	Aluminum Sheet (10-18 Gauge)	
	Calculator	
	Carbon Steel Wire Brush	
	Center Punch	
	Cold Chisel	
	Combination Square Set	
	Files (10")	
	Fillet Gage	
	Fire Extinguisher	
	First Aid Kit	
	Flashlight	
	Flints and Tip Cleaner	
	Gas Tungsten Arc Accessory Kit	
	Grinding Wheels (General Purpose/Aluminum)	
4 pkg	GTAW 10-Pc Each 1/16" EWCE-2	
4 pkg	GTAW 10-Pc Each 1/16" EWP	
4 pkg	GTAW 10-Pc Each 1/16" EWTH-2	
4 pkg	GTAW 10-Pc Each 1/16" EWZ	
4 pkg	GTAW 10-Pc Each 1/8" EWCE-2	
4 pkg	GTAW 10-Pc Each 1/8" EWP	
4 pkg	GTAW 10-Pc Each 1/8" EWTH-2	
4 pkg	GTAW 10-Pc Each 1/8" EWZ	
4 pkg	GTAW 10-Pc Each 3/32" EWCE-2	
4 pkg	GTAW 10-Pc Each 3/32" EWP	
4 pkg	GTAW 10-Pc Each 3/32" EWTH-2	
4 pkg	GTAW 10-Pc Each 3/32" EWZR	
	GTAW 100% Argon	
	GTAW 40# 1/16 ER 3XX (Stainless Rod)	
	GTAW 40# 3/32" ER 3XX (Stainless Rod)	
4 pkg	GTAW 40# 3/32" ER 4043 (Aluminum Rod)	
	GTAW 40# 3/32" ER 70-52 (Carbon Steel Rod)	
4 pkg	GTAW 40# ER 70-52 (Carbon Steel Rod)	
	GTAW 40# 1/16" ER 4043 (Aluminum Rod)	
	GTAW Electrodes Filter Metal and Sheilding Gas	
	Hammer (Ball Peen - 16 oz.)	
	Hammer (Chipping)	
	Machine Oxyfuel Gas - 00-2/0 Cutting Tips	
	Machine Oxyfuel Gas - 25' Oxy Fuel Gas Hose	
	Machine Oxyfuel Gas - Consumable Parts Kit	
	Machine Oxyfuel Gas - Friction Lighter, Flints and Tip Cleaner	
	Machine Oxyfuel Gas - Oxy Fuel Gas Supply	

Machine Oxyfuel Gas - Parts Replacement/Repair Kit  
 Machine Oxyfuel Gas Tank Wrench  
 Manual Oxyfuel Gas Cutting Torch - 00-3/0 Cutting Tips  
 Manual Oxyfuel Gas Cutting Torch - 2/0 Gouging Tips  
 Manual Oxyfuel Gas Cutting Torch - 25' Oxy Fuel Gas Hose  
 Manual Oxyfuel Gas Cutting Torch - Friction, Lighter, Flints  
 and Tip Cleaner  
 Manual Oxyfuel Gas Cutting Torch Heating Tip  
 Manual Oxyfuel Gas Cutting Torch Tank Wrench  
 Metal Scribe  
 Overhead Projector  
 Oxyfuel Friction Lighter  
 Plain Carbon Steel Sheet (10-18 Gauge)  
 Pliers (10" Groove or Slip Joint)  
 Pliers (6" Needle Nose)  
 Pliers (6" Side or Diagonal Cutting)  
 Rule (English/Metric Steel Bench - 12")  
 Screwdrivers (Phillips & Flat)  
 Soap Stone  
 Stainless Steel Sheet (10-18 Gauge)  
 Stainless Steel Wire Brush  
 Steel Dividers (6" Minimum)  
 Steel Tape Measure (10')  
 Tank Wrench  
 Vice Grips  
 Vice Grips (10")  
 Wrench (12" Adjustable)  
 Wrench Set (Allen or Hex)  
 Wrenches (Adjustable)  
 Wrenches (Allen or Hex up to 3/8")

**Small Equipment/Trainers (Individual Items \$100-\$999)**

Quantity	Item	Source
	Abrasive Cut-Off Saw	
	Anvil (150-lb)	
	Band Saw	
	Bench Vice	
	C-Clamps (8")	
	Computer - Complete	
	Drill Press 1/16" to 1 1/2" Drill Bits	
	Eye Wash Station	
	Gas Tungsten Arc-Flow Meter(s)	
	Gas Tungsten Arc-Gas Purge Control	
	Gas Tungsten Arc-High Frequency Control	

Gas Tungsten Arc-Part Repair/Replacement Kit  
 Gas Tungsten Arc-Torch (25', Amps and Cooling)  
 Gas Tungsten Arc-Water Circulation and Control  
 Layout or Work Bench Steel Topped  
 Light/Medium Duty Torch  
 Machine Oxyfuel Gas - Cutting Torch Assembly  
 Machine Oxyfuel Gas - Drive Unit  
 Machine Oxyfuel Gas - Fuel Gas Regulator  
 Machine Oxyfuel Gas - Fuel Gas Supply  
 Machine Oxyfuel Gas - Oxygen Regulator  
 Machine Oxyfuel Gas - Oxygen Supply  
 Manual Oxyfuel Gas - Cutting Torch  
 Manual Oxyfuel Gas - Cutting Torch Accessories  
 Manual Oxyfuel Gas - Cutting Torch Consumable Parts Kit  
 Manual Oxyfuel Gas - Cutting Torch Cylinder Cart  
 Manual Oxyfuel Gas - Cutting Torch Oxygen Regulator  
 Manual Oxyfuel Gas - Cutting Torch Part  
 Repair/Replacement Kit  
 Mechanical Drafting Equipment  
 Oxyfuel Burning Table with Dross Pan and Replaceable  
 Slats  
 Oxygen Gas Cutting  
 Pedestal Grinder (12" or 14")  
 Plasma Arc - Air Regulator  
 Plasma Arc - Consumable Parts Kit  
 Plasma Arc - Part Repair/Replacement Kit  
 Plasma Arc Torch (25', Low Volt, Air)  
 Protective Screens  
 Storage Boxes/Cabinets for Metals & Supplies  
 TV/VCR

**Large Equipment/Trainers (Individual Items \$1000+)**

Quantity	Item	Source
	AC/DC Power Source	
	Gas Tungsten Arc - AC/DC CC 300-Amp	
	Grinders and Accessories (8" - 12")	
	Iron Worker (Min 50 Ton)	
1	LCD Projector	
	Metal Moving Equipment (Forklift or Pallet Jack)	
	Overhead Monorail 2-Ton Lift	
	Plasma Arc Cutter - DC CC 300-Amp @ 60	
	Saw	
	Shear 1/4" Capacity	
	Ventilation Equipment	
	Welding Table with Weld Position	

## **The Kentucky Tech Curriculum**

Office of Career and Technical Education

Equal Education Opportunities M/F/D

### **EQUIPMENT/SUPPLIES**

Effective: 12/6/2007

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## **Welding**

### **WLD 131 Gas Tungsten Arc Welding Fillet Lab**

Program Area General Equipment/Supplies

Quantity

Item

Source

See List for WEL 130

## **The Kentucky Tech Curriculum**

Office of Career and Technical Education

Equal Education Opportunities M/F/D

### **EQUIPMENT/SUPPLIES**

Effective: 12/6/2007

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## **Welding**

### **WLD 133 GTAW Groove Lab**

Program Area General Equipment/Supplies

Quantity

Item

Source

See List for WEL 130

## **The Kentucky Tech Curriculum**

Office of Career and Technical Education

Equal Education Opportunities M/F/D

### **EQUIPMENT/SUPPLIES**

Effective: 12/6/2007

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## **Welding**

### **WLD 140 Gas Metal Arc Welding**

Supplies (Consumables)

Quantity

Item

Source

3/8" Plain Carbon Steel Plate  
 Aluminum Electrodes  
 Base Metal  
 Ear Plugs/Noise Protection  
 GMAW Filler Metal & Shielding 14# Spool .030 E70-SX  
 GMAW Filler Metal & Shielding 14# Spool .035 E70-SX  
 GMAW Filler Metal & Shielding 14# Spool .045 E70-SX  
 GMAW Filler Metal & Shielding Anti-Splatter Spray or Gel  
 Leather Gloves  
 Leather Jacket  
 Materials 10-18 Gauge Aluminum Sheet  
 Materials 10-18 Gauge Plain Carbon Steel Sheet  
 Materials 10-18 Gauge Stainless Steel  
 Safety Glasses  
 Sleeves or Apron  
 Spectacles with Side Shields  
 Stainless Steel Electrodes  
 Weider's Hat or Skull Cap  
 Welding Helmet  
 2 Each Welding Lenses #10 Shaded  
 2 Each Welding Lenses #11 Shaded Filter  
 4 Each Welding Lenses Clear Cover  
 Welding Lenses to match helmet design

#### Supplies (Nonconsumables)

Quantity	Item	Source
	Fire Extinguisher	
	First Aid Kit	

#### Hand Tools/Sets (Individual Items Under \$100)

Quantity	Item	Source
	10" Groove or Slip Joint Pliers	
	10" Vice Grips, 10" Clamps	
	Allen or Hex Wrench Set	
1 Set	Allen or Hex Wrenches up to 3/8"	
	Ball Peen Hammer	
	Carbon Steel Wire Brush	
	Center Punch	
	Chemical Shower	
	Combination Square Set	
	English/Metric Steel Benchrule (Min 12')	

Effective: 12/6/2007

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**Welding**  
**WLD 141                      GMAW Fillet Lab**

Program Area General Equipment/Supplies

Quantity

Item

Source

See List for WEL 140

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Office of Career and Technical Education

Equal Education Opportunities M/F/D

**EQUIPMENT/SUPPLIES**

Effective: 12/6/2007

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**Welding**  
**WLD 143                      GMAW Groove Lab**

Program Area General Equipment/Supplies

Quantity

Item

Source

See List for WEL 140

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**EQUIPMENT/SUPPLIES**

Effective: 12/6/2007

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**Welding**  
**WLD 151                      Basic Welding A**

Supplies (Consumables)

Quantity

Item

Source

Base Metal

Drawings and Sketches

Grinding Wheels

Shielded Metal Arc - Ground Clamp  
 Shielded Metal Arc 2/0 Cable Lugs and Connectors  
 SMAW Filler Metal - 100# 1/8" E6010  
 SMAW Filler Metal - 100# 1/8" E6011  
 SMAW Filler Metal - 100# 1/8" E7018  
 Vice Grip Clamps (10")  
 Vice Grips  
 Vice Grips (10")  
 Wire Brush (Carbon or Steel)  
 Wrench (12" Adjustable)  
 Wrenches (Adjustable)  
 Wrenches (Allen or Hex)

**Small Equipment/Trainers (Individual Items \$100-\$999)**

Quantity	Item	Source
	Air Carbon Arc Cutter	
	Bench Vice	
	Chemical Shower	
	Clamps (C-Clamps 8")	
	Compressed Air Supply and Accessories	
	Compressed Air Supply and Accessories to Accommodate Pneumatic Tools or Air Carbon ARC	
	Drill Press 1/16" to 1.5" Drill Bits	
	Electrode Oven	
	Eye Wash Station	
	Flux Cored Arc - 2/0 Cable Lugs and Connects	
	Flux Cored Arc - 25' 2/0 Electrode Cable	
	Flux Cored Arc - 25' 2/0 Workpiece Cable	
	Flux Cored Arc - Flow Meters	
	Flux Cored Arc - Gas Shielded Gun	
	Flux Cored Arc - Ground Clamp	
	Flux Cored Arc - Parts Repair/Replacement Kit	
	Flux Cored Arc - Self Shielded Gun	
	Gas Metal Arc - 25' 2/0 Electrode Cable	
	Gas Metal Arc - 25' 2/0 Workpiece Cable	
	Gas Metal Arc - Flow Meters	
	Gas Metal Arc - Ground Clamp	
	Gas Metal Arc - Gun 15'	
	Gas Metal Arc - Parts Repair/Replacement Kit	
	Gas Tungsten Arc - Flow Meter	
	Gas Tungsten Arc - Gas Purge Control	
	Gas Tungsten Arc - High Frequency Control	
	Gas Tungsten Arc - Part Repair/Replacement Kit	
	Gas Tungsten Arc - Torch 25'	

Effective: 12/6/2007

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**Welding**  
**WLD 170      Blueprint Reading for Welding**

**Supplies (Consumables)**

Quantity	Item	Source
	Base Metal	
4 Boxes	CAC-A Electrodes 1/4"	
4 Boxes	CAC-A Electrodes 1/8"	
4 Boxes	CAC-A Electrodes 3/8"	
4 Boxes	CAC-A Electrodes 5/32"	
	Drawings and Sketches	
	Ear Plugs	
	Electrodes (Assorted Sizes)	
	Grinding Wheels	
	Soap Stone	

**Supplies (Nonconsumables)**

Quantity	Item	Source
	Burning Goggles or Face Shield	
2 Each	Burning Goggles or Face Shield (#5 Filter Plate/Lens)	
2 Each	Burning Goggles or Face Shield (#7 Filter Plate/Lens)	
4 Each	Burning Goggles or Face Shield (Clear Cover Plate/Lens)	
	Cape	
	Leather Gloves	
	Leather Jacket	
	Safety Glasses	
	Sleeves or Apron	
	Spectacles with Side Shields and Clear Lens	
	Welder's Hat or Skull Cap	
	Welding Helmet	
2 Each	Welding Lenses (#1 2 Shaded Filter Plate/Lens)	
2 Each	Welding Lenses (#10 Shaded Filter Plate/Lens)	
4 Each	Welding Lenses (Clear Cover Plate/Lens)	

**Hand Tools/Sets (Individual Items Under \$100)**

Quantity	Item	Source
----------	------	--------

GTAW 100% Argon  
 GTAW 40# 1/16" ER 3XX (Stainless Steel Rod)  
 GTAW 40# 1/16" ER 70-52  
 GTAW 40# 1/16" ER4043 (Aluminum Rod)  
 GTAW 40# 3/32" 3XX (Stainless Steel Rod)  
 GTAW 40# 3/32" ER 4043 (Aluminum Rod)  
 GTAW 40# 3/32" ER 705-2 (Carbon Steel Rod)  
 GTAW Electrodes Filler Metal and Shielding Gas  
 Hammer (Ball Peen)  
 Hammer (Chipping)  
 Machine Oxyfuel Gas - 00-2/0 Cutting Tips  
 Machine Oxyfuel Gas - 25' Oxyfuel Gas Hose  
 Machine Oxyfuel Gas - Consumable Parts Kit  
 Machine Oxyfuel Gas - Friction Lighter, Flints and Tip  
 Cleaner  
 Machine Oxyfuel Gas - Oxyfuel Gas Supply  
 Machine Oxyfuel Gas - Tank Wrench  
 Manual Oxyfuel Gas Cutting Torch - 00-3/0 Cutting Tips  
 Manual Oxyfuel Gas Cutting Torch - 2/0 Gouging Tips  
 Manual Oxyfuel Gas Cutting Torch - 25' Oxyfuel Gas Hose  
 Manual Oxyfuel Gas Cutting Torch - Friction Lighter, Flints  
 and Tip Cleaner  
 Manual Oxyfuel Gas Cutting Torch Heating Tip  
 Manual Oxyfuel Gas Cutting Torch Tank Wrench  
 Metal Scribe  
 Overhead Projector  
 Oxyfuel Friction Lighter  
 Plain Carbon Steel Plate (3/8")  
 Plain Carbon Steel Sheet (10-18 Gauge)  
 Pliers (10" Groove or Slip Joint)  
 Pliers (6" Needle Nose)  
 Pliers (6" Side or Diagonal Cutting)  
 Screwdrivers (Phillips & Flat)  
 Shielded Metal Arc - Electrode Holder  
 Shielded Metal Arc - Ground Clamp  
 Shielded Metal Arc 2/0 Cable Lugs and Connect  
 SMAW Filler Metal - 1/8" E 308 - 5/16  
 SMAW Filler Metal - 1/8" E 309 - 5/16  
 SMAW Filler Metal - 1/8" Ni-Rods  
 SMAW Filler Metal - 1/8" Non-Machinable Cast Electrode  
 SMAW Filler Metal - 100# 1/8" E 6010  
 SMAW Filler Metal - 100# 1/8" E 6011  
 SMAW Filler Metal - 100# 1/8" E 7018  
 SMAW Filler Metal - 100# 3/32" E 7018  
 SMAW Filler Metal - 100# 5/32" 6011  
 SMAW Filler Metal 100# 5/32" E6010

Gas Metal Arc - Gun 15' Amp and Cooling  
 Gas Metal Arc - Parts Repair/Replacement  
 Gas Tungsten - Flow Meter(s)  
 Gas Tungsten - Water Circulation and Control  
 Gas Tungsten Arc - Gas Purge Control  
 Gas Tungsten Arc - High Frequency Control  
 Gas Tungsten Arc - Part Repair/Replacement Kit  
 Gas Tungsten Arc - Torch (25', Amps and Cooling)  
 Grinder (Pedestal, 12" or 14")  
 Grinder (Right Angle)  
 Guided Bend Test Jig or Machine  
 Layout or Workbench (Steel Topped)  
 Light/Medium Duty Torch  
 Machine Oxyfuel Gas - Drive Unit  
 Machine Oxyfuel Gas - Cutting Torch  
 Machine Oxyfuel Gas - Fuel Gas Regulator  
 Machine Oxyfuel Gas - Fuel Gas Supply  
 Machine Oxyfuel Gas - Oxygen Regulator  
 Machine Oxyfuel Gas - Oxygen Supply  
 Manual Oxyfuel Gas Cutting Torch - Consumable Parts Kit  
 Manual Oxyfuel Gas Cutting Torch - Cylinder Cart  
 Manual Oxyfuel Gas Cutting Torch - Oxygen Regulator  
 Manual Oxyfuel Gas Cutting Torch - Part  
 Repair/Replacement Kit  
 Manual Oxyfuel Gas Cutting Torch Accessories  
 Mechanical Drafting Equipment  
 Metal Moving Equipment (Forklift or Pallet Jack)  
 Oxyfuel Burning Table with Dross Pan and Replacable  
 Slabs  
 Oxygen Cutting Gas  
 Pipe Beveling Machine - Flame Cutting  
 Plasma Arc - Air Regulator  
 Plasma Arc - Consumable Parts Kit  
 Plasma Arc - DC CC 300 Amp @ 60  
 Plasma Arc - Part Repair/Replacement Kit  
 Plasma Arc - Torch (25', Low Volt, Air)  
 Protective Screens  
 Saw (Abrasive Cut-Off)  
 Saw (Band)  
 Shielded Metal Arc - 25' 2/0 Electrode Cable  
 Shielded Metal Arc - 25' 2/0 Workpiece Cable  
 Shielded Metal Arc Welder  
 Tensile Testing Machine with Guided Bend Tester  
 TV/VCR

Large Equipment/Trainers (Individual Items \$1000+)

Program Area General Equipment/Supplies

Quantity

Item

Source

See List for WEX 120

**The Kentucky Tech Curriculum**

Office of Career and Technical Education

Equal Education Opportunities M/F/D

**EQUIPMENT/SUPPLIES**

Effective: 12/6/2007

**Welding**

**WPP 200**

**Workplace Principles**

**Supplies (Consumables)**

Quantity

Item

Source

Application Forms

Clerical Supplies

1 per student Diskettes

Employment Tests

Envelopes

File Folders/Labels

Ink Cartridges

Paper

Paper Clips

Pens

Resume Paper

Telephone Books

**Supplies (Nonconsumables)**

Quantity

Item

Source

20 Calculators

Paper Cutter

**Small Equipment/Trainers (Individual Items \$100-\$999)**

Quantity

Item

Source

Binder Machine

Camcorder

CD Writer

Digital Camera

	Dry Erase Board
	Filing Cabinets
1	Overhead Projector
	Paper Shredder
	Printer(s)
	Scanner
	TV/VCR or TV/DVD

**Large Equipment/Trainers (Individual Items \$1000+)**

Quantity	Item	Source
	Color Printer	
20	Computer Stations	
1	Multimedia Projector	

To find equipment list for all industrial education programs use the following link:  
<http://www.kytechcurriculum.org/functions.asp>

# INFORMATION TECHNOLOGY



# INFORMATION TECHNOLOGY

- **OVERVIEW**
- **GENERAL SPECIFICATIONS**
- **SAMPLE ROOM LAYOUTS**
- **RECOMMENDED  
EQUIPMENT LISTS**



**INFORMATION TECHNOLOGY EDUCATION PROGRAMS shall be provided in accordance with the following table:**

**INFORMATION TECHNOLOGY**

Grade Level	Minimum Unit Area (Square Feet)	Unit/Student Ratio
Elementary	N.A.	N.A.
Middle/Junior High	750	1/150
High	3250	1/150

**Location: Shielded from noise-producing activities and functions.**

**Support Spaces: The Instructional Area shall be internally subdivided to provide the following support spaces:**

**INFORMATION TECHNOLOGY SUPPORT SPACES**

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
<b>Middle/Junior High</b>	Classroom	750	Provide the classroom area within the lab enclosure
	Production	150	Provide one 48" x30"x24" base storage cabinet and one 48"x30'x24'drawer cabinet with plastic laminate countertops; view window from Lab; and soleniod-type "kill switch" to all electrical outlets
	Audio-Visual	150	Provide one 48" x30"x24" base storage cabinet and one 48"x30'x24'drawer cabinet with plastic laminate countertops; view window from Lab
	Computer Lab	1200	Lab area for students
	Wiring Closet	100	
	Tool Room	400	

# **GUIDELINES FOR PLANNING INFORMATION TECHNOLOGY EDUCATION FACILITIES IN KENTUCKY SCHOOLS 2008**

## **Program Area Personnel and the Planning Process**

Because of their knowledge and understanding of the curricula, objectives, and the technology industry, the information technology education teacher(s) should be involved in planning. The teacher should be permitted to explain space needs for classroom(s), technology laboratory, modular laboratory, and other space requirements that may be relevant to the local situation.

State staff members and teacher educators need to be involved because of their experiences as teachers, supervisors or teacher educators. They have knowledge of state regulations and have seen many different facilities throughout the state.

## **Location of Space for Information Technology Facilities**

Easy accessibility is important in the location of the technology facility. The diversity of groups served makes it desirable to locate the facility on the ground floor at the end of a wing of the building that will permit access.

An entrance (overhead door) that will provide indoor unloading is necessary. This will permit convenient delivery of laboratory supplies and installation of large equipment.

The location should also provide convenient entrance for night classes without having to open the main entrance to the building. It should provide accessibility for the physically challenged and convenient entry for persons from the technology community utilizing the facility.

Locating the classrooms, laboratory, office, etc. adjacent to each other gives unity to the program and allows for better communication among teachers, sharing of equipment and classrooms.

## **Information Technology Curricula**

Information Technology (IT) Education is the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware. In short, IT deals with the use of electronic computers and computer software to convert, store, protect, process, transmit and retrieve information, securely. This document is intended to provide you with a general facility floor plan for all IT Program Majors with equipment and software requirements for specific majors.

In this most rapidly growing and changing program of Career & Technical Education, keeping a secondary education program “current”, in terms of facilities and equipment is a great challenge. The specifications for computer hardware, networking equipment, servers, routers and software evolve quickly. The figures herein are intended to be estimates based on June 2007 prices. It is suggested that you consult with the websites listed below for current pricing, industry standard software, etc. before making final decisions.

#### Overall Planning

<http://www.comptia.org/>

<http://www.kctcs.edu/>

<http://www.kde.state.ky.us/KDE/Instructional+Resources/Technology/>

#### Networking

<http://www.enterasys.com/>

<http://www.cisco.com/>

<http://www.nortel.com/>

<http://www.novel.com/>

#### Equipment

<http://www.kde.state.ky.us/KDE/Administrative+Resources/Technology/>

<http://www.dell.com/>

<http://www.bhphotovideo.com/>

<http://www.cdwg.com/>

#### Software

<http://www.microsoft.com/>

<http://www.adobe.com/products/creativesuite/web/>

<http://www.cdwg.com/>

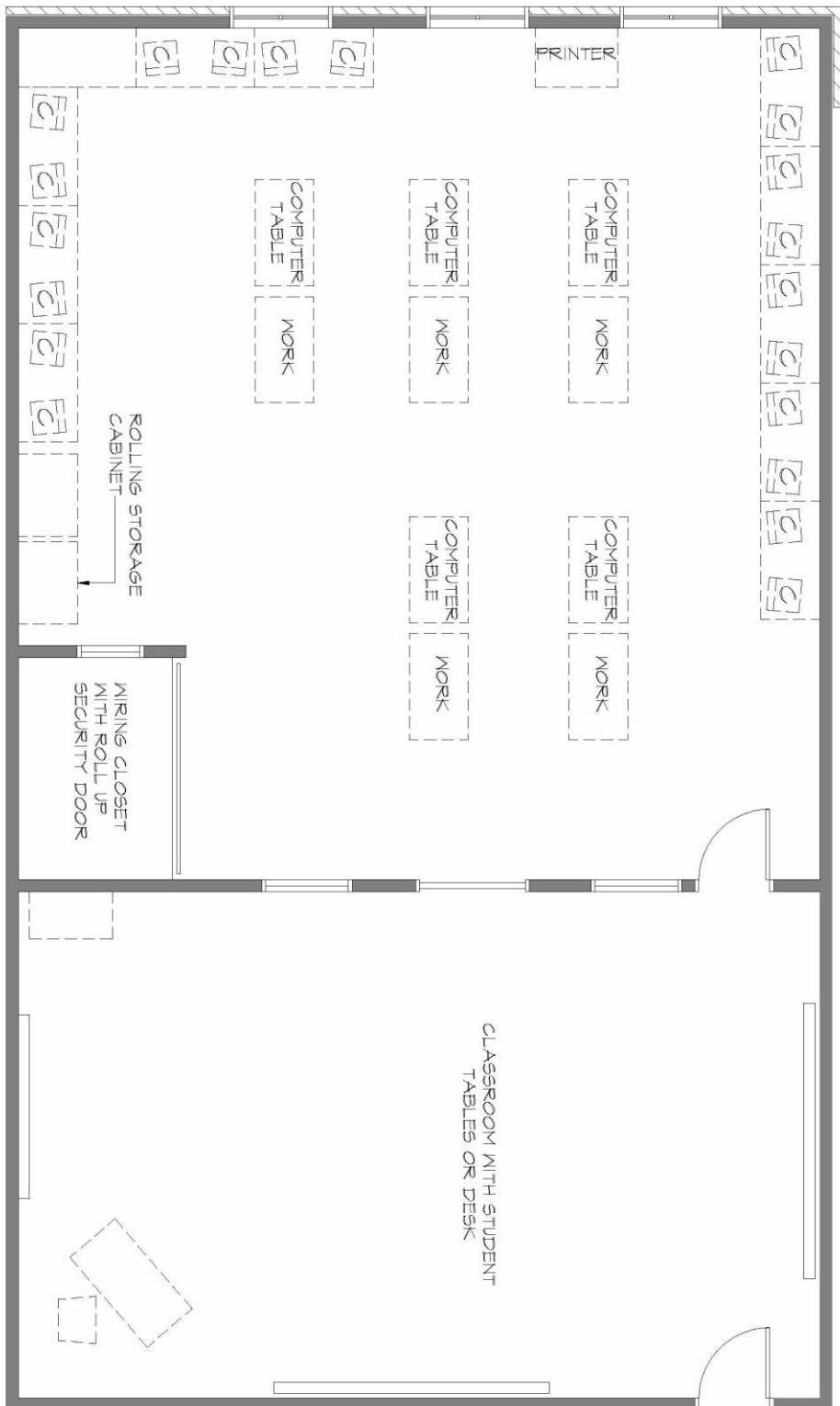
THE PHOTO BY LANT  
 PROJECT NO:  
 2008.037  
 DRAWN BY:  
 +D5, Inc.  
 CHECKED BY:  
 APPROVED BY:  
 PLOT DATE:  
 4-5-2006  
 REVISIONS:

**INFORMATION TECHNOLOGY LAB - 1**  
**KENTUCKY DEPARTMENT OF EDUCATION**  
Division of Career and Technical Education  
500 Mero Street 2119 Capital Plaza Tower  
Frankfort, Ky 40601



SECRET

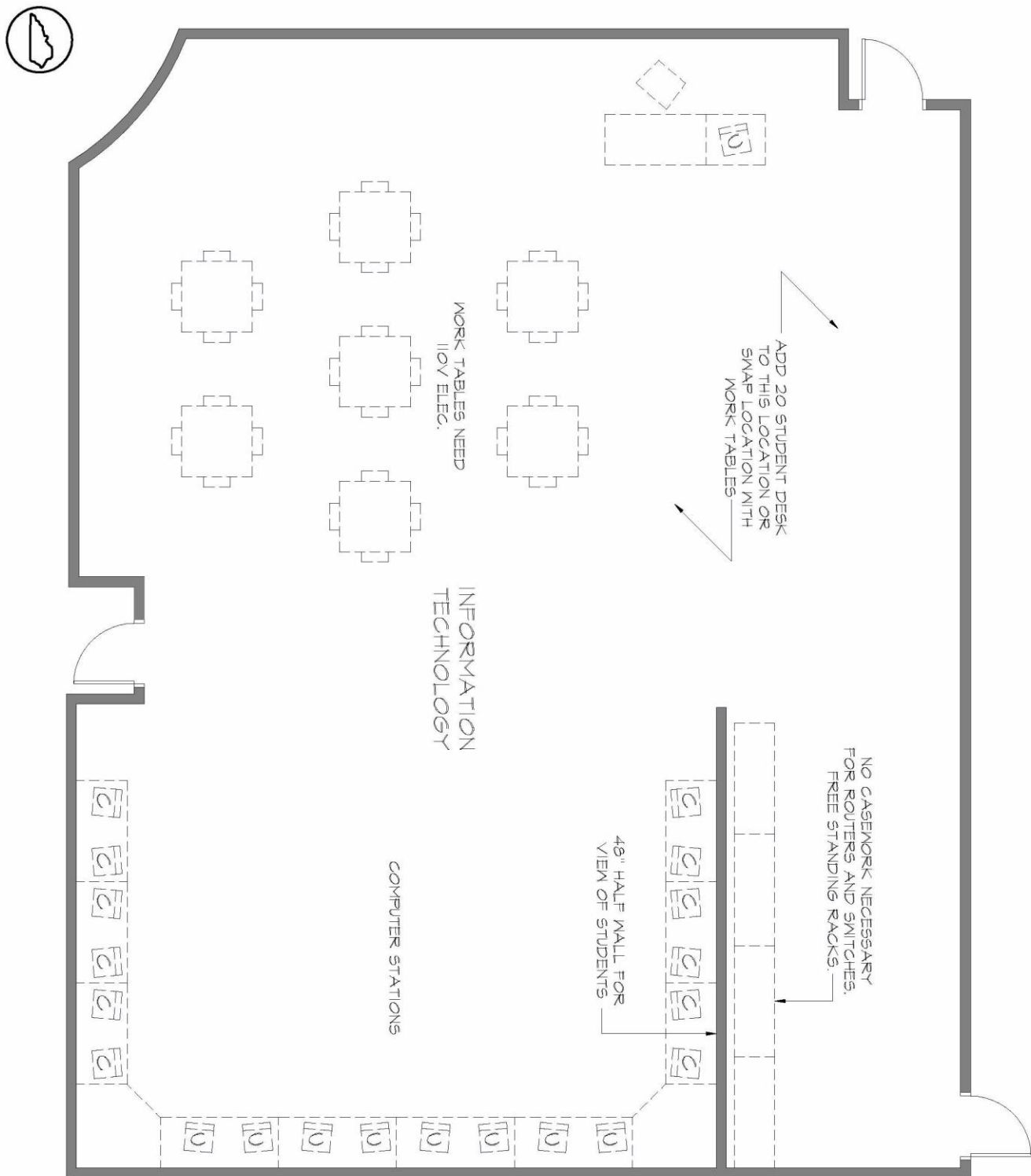
NOT TO SCALE



**INFORMATION TECHNOLOGY LAB - 2**  
**KENTUCKY DEPARTMENT OF EDUCATION**  
Division of Career and Technical Education  
500 Hero Street 2119 Capital Plaza Tower  
Frankfort, Ky 40601



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**PROJECT NO:** 2008.097  
**DRAWN BY:** HDS, Inc.  
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**APPROVED BY:**  
**PLOT DATE:** 4-5-2008  
**REVISIONS:**

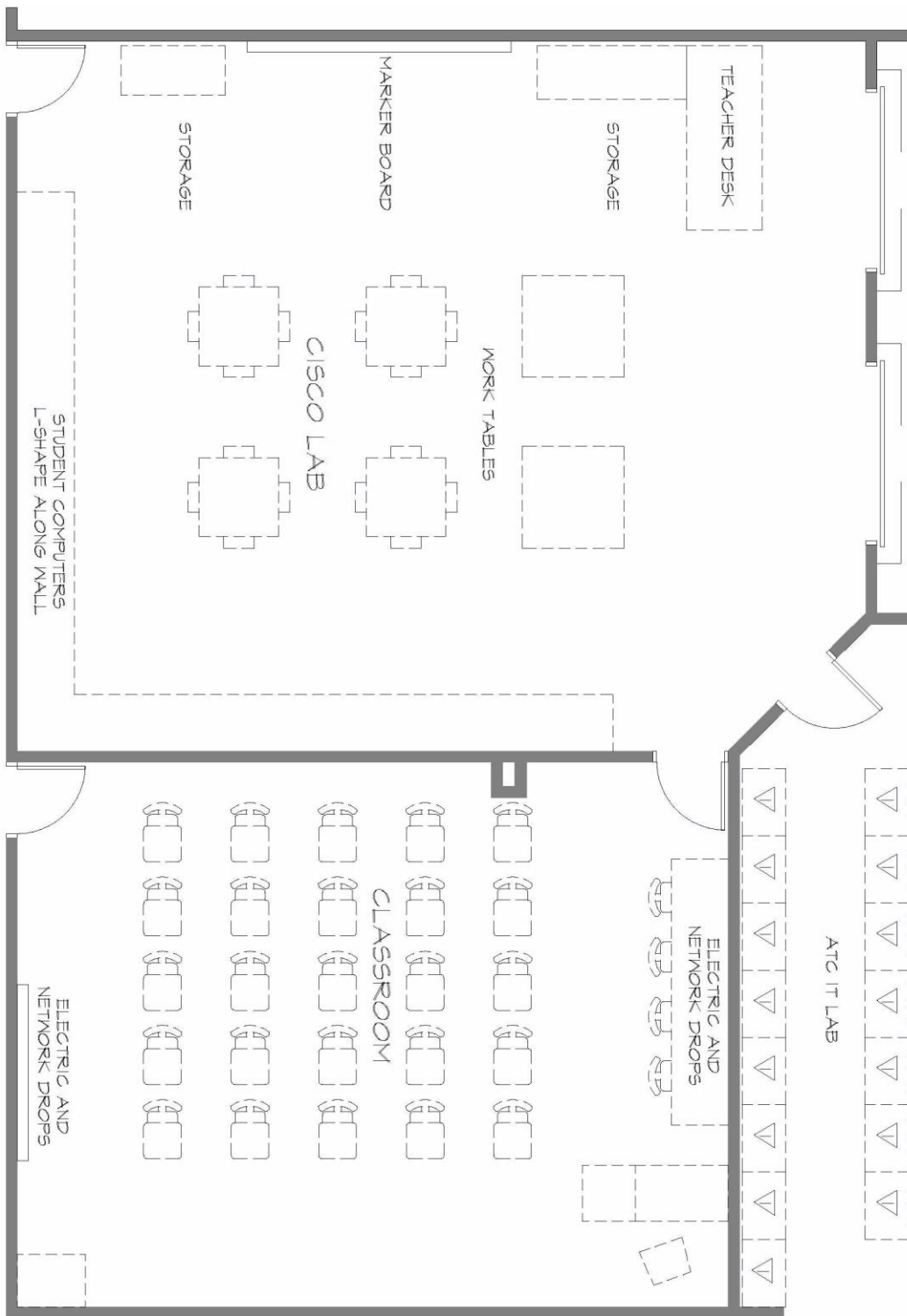
INFORMATION TECHNOLOGY LAB - 3  
KENTUCKY DEPARTMENT OF EDUCATION  
Division of Career and Technical Education  
500 Mero Street 2119 Capital Plaza Tower  
Frankfort, Ky 40601



SECRET  
SECRET NUMBER  
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SEE CISCO WIRING CLOSET  
SPECIFICATIONS (ATTACHED)



PROJECT NO:  
2009-001  
DRAWN BY:  
HDD, INC.  
CHECKED BY:  
APPROVED BY:  
PLOT DATE:  
6-22-09  
REVISIONS:

CISCO LAB CLASSROOM  
KENTUCKY DEPARTMENT OF EDUCATION  
Division of Career and Technical Education  
600 Metro Street, 21st Capital Plaza Tower  
Frankfort, Ky 40601

HDD  
HDD, INC.  
1000 N. 10TH STREET  
SUITE 101  
FRANKFORT, KY 40601  
TEL: 502.226.1000  
FAX: 502.226.1001  
WWW.HDD,INC.COM

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<b>INFORMATION TECHNOLOGY</b>		
<b>COMPUTER MAINTENANCE &amp; SUPPORT MAJOR (OLD)</b>		
<b>INFORMATION SUPPORT &amp; SERVICES (NEW)</b>		
<b>EQUIPMENT LIST RECOMMENDATIONS</b>		
<b><u>Hardware</u></b>		
<b><u>ITEM</u></b>	<b><u>ITEM DESCRIPTION</u></b>	<b><u>QUANTITY</u></b>
Computer Drops	Computer Drops	32
Electrical Receptacles	Electrical Receptacles	32
48 port switch	48 Port switch	1
Tables	Tables - conducive to specific classroom and students depending on classroom environment	16
Chairs	Chairs - conducive to specific classroom and students depending on classroom environment	32
Computers	Computers - depending on funding and specific lab needs	31
Teacher Desk	Teacher Desk	1
Teacher Chair	Teacher Chair	1
Projector *	Projector * - overhead is conducive for most students and classrooms	1
Smart Board	Smart Board/Active Board	1
Classroom Sound System for Multimedia *	Classroom Sound System for Multimedia *	1
Network Printer	Network Printer	1
Digital Camera	Digital Camera	1
Scanner	Scanner	1
Telephone	Telephone	1
VCR/DVD Combo *	VCR/DVD Combo *	1
Workbench	Workbenches for student tasks	4
Monitor, Keyboard, mouse for workbench	Extra monitors, keyboards, and mice	8
Tools and Test Equipment	Screwdrivers, Pliers, Needle Nose Pliers, nut drivers, diagonal snips, cable testers, crimpers, punch down tools, and strippers	1
Mini Rack and wiring	Mini rack and wiring	1
<b><u>Software</u></b>		
Microsoft Office Current Version	Microsoft Office Current Version	31
Virus Scanning software	Virus Scanning software	31
<b><u>Safety</u></b>		
Fire Extinguishers	Fire Extinguisher per classroom/lab needs	1
First Aid Kit	First Aid Kit	1
Hazardous Waste Spill Kit	Hazardous Waste Spill Kit	1

**INFORMATION TECHNOLOGY  
NETWORK ADMINISTRATION MAJOR  
EQUIPMENT LIST RECOMMENDATIONS**

**Hardware**

ITEM	ITEM DESCRIPTION	Number of Items
Computer Drops	Computer Drops	32
Electrical Receptacles	Electrical Receptacles	32
48 port switch	48 Port switch	1
Tables	Tables - conducive to specific classroom and students depending on classroom environment	16
Chairs	Chairs - conducive to specific classroom and students depending on classroom environment	32
Computers	Computers - depending on funding and specific lab needs	31
Teacher Desk	Teacher Desk	1
Teacher Chair	Teacher Chair	1
Projector *	Projector * - overhead is conducive for most students and classrooms	1
Smart Board	Smart Board/Active Board	1
Classroom Sound System for Multimedia *	Classroom Sound System for Multimedia *	1
Network Printer	Network Printer	1
Digital Camera	Digital Camera	1
Scanner	Scanner	1
Telephone	Telephone	1
VCR/DVD Combo *	VCR/DVD Combo *	1
Switches	4 24 port 10/100/1000 Switches	4
Routers	2 Ethernet Routers	2
Tools and Test Equipment	Screwdrivers, Pliers, Needle Nose Pliers, nut drivers, diagonal snips, cable testers, crimpers, punch down tools, and strippers	1
Mini Rack and wiring	Rack and wiring	1

**Software**

Microsoft Office Current Version	Microsoft Office Current Version	31
Virus Scanning software	Virus Scanning software	31

**Safety**

Fire Extinguishers	Fire Extinguisher per classroom/lab needs	1
First Aid Kit	First Aid Kit	1
Hazardous Waste Spill Kit	Hazardous Waste Spill Kit	1

# INFORMATION TECHNOLOGY PROGRAMMING MAJOR EQUIPMENT LIST RECOMMENDATIONS

## Hardware

ITEM	ITEM DESCRIPTION	QUANTITY
Computer Drops	Computer Drops	32
Electrical Receptacles	Electrical Receptacles	32
Switch	48 Port switch	1
Tables	Tables - conducive to specific classroom and students depending on classroom environment	16
Chairs	Chairs - conducive to specific classroom and students depending on classroom environment	32
Computers	Computers - depending on funding and specific lab needs	31
Teacher Desk	Teacher Desk	1
Teacher Chair	Teacher Chair	1
Projector *	Projector * - overhead is conducive for most students and classrooms	1
Smart Board	Smart Board/Active Board	1
Classroom Sound System for Multimedia *	Classroom Sound System for Multimedia *	1
Network Printer	Network Printer	1
Digital Camera	Digital Camera	1
Scanner	Scanner	1
Telephone	Telephone	1
VCR/DVD Combo *	VCR/DVD Combo *	1
Optional Programming Textbooks	EX: Java, C++, Visual Basic, etc.	35

## Software

Microsoft Office Current Version	Microsoft Office Current Version	31
Virus Scanning software	Virus Scanning software	31
Programming language package	EX: Java, C++, Visual Basic, etc.	1

(pricing on the above depending on language chosen)

## Safety

Fire Extinguishers	Fire Extinguisher per classroom/lab needs	1
First Aid Kit	First Aid Kit	1
Hazardous Waste Spill Kit	Hazardous Waste Spill Kit	1

# INFORMATION TECHNOLOGY WEB DEVELOPMENT/ADMINISTRATION MAJOR EQUIPMENT LIST RECOMMENDATIONS

## Hardware

Item	Item Description	Quantity
Computer Drops	Computer Drops	32
Electrical Receptacles	Electrical Receptacles	32
switch	48 Port switch	1
Tables	Tables - conducive to specific classroom and students depending on classroom environment	16
Chairs	Chairs - conducive to specific classroom and students depending on classroom environment	32
Computers	Computers - depending on funding and specific lab needs	31
Teacher Desk	Teacher Desk	1
Teacher Chair	Teacher Chair	1
Projector *	Projector * - overhead is conducive for most students and classrooms	1
Smart Board	Smart Board/Active Board	1
Classroom Sound System for Multimedia *	Classroom Sound System for Multimedia *	1
Network Printer	Network Printer	1
Digital Camera	Digital Camera	1
Scanner	Scanner	1
Telephone	Telephone	1
VCR/DVD Combo *	VCR/DVD Combo *	1
Web Design Textbooks	EX: FrontPage, Dreamweaver, HTML, etc.	35

## Software

Microsoft Office Current Version	Microsoft Office Current Version	31
Virus Scanning software	Virus Scanning software	31
Web designer package	EX: FrontPage, Dreamweaver, HTML, etc.	1

(pricing on the above depending on language chosen)

## Safety

Fire Extinguishers	Fire Extinguisher per classroom/lab needs	1
First Aid Kit	First Aid Kit	1
Hazardous Waste Spill Kit	Hazardous Waste Spill Kit	1

## Information Technology

### Recommendations for a BASIC Computer Lab Equipment List

#### Classroom recommendations:

##### 1. Hardware needed :

- **Computers:** **30 Desktop Computers** for students to use, with 15" or 17" monitors, keyboard, mouse.
- **\*\*( all computers should meet the following standards )**
- **Internet Access to all computers**
- **1GB Meg of Ram**
- **60 Gig Hard Drive**
- **USB connections**
- **CD ROM/DVD Drive**
- **3½ Floppy Drive (optional)**
- **Speakers**
- **Windows XP or higher**
- **WebCam**
- **Sound Card**
- **Multimedia Capable Video Card**
- **Internet LAN Card**
- **Projector** for teachers workstation
- **Interactive Board**
- **Scanner** (to be connected to Teachers Workstation or separate computer)
- **Digital Camera**
- **1 – Network Laser Printer**
- **1 – DeskJet Printer for Teachers Workstation**
- **Wireless Mouse System**
- **USB Flash drive**

##### 2. Software needed:

- **Microsoft Office** – To include but not limited to the following;
  - **Word**
  - **Power Point**
  - **Excel**
  - **Access**
  - **Publisher**

# MARKETING EDUCATION FACILITY GUIDE



# MARKETING EDUCATION

- OVERVIEW
- GENERAL SPECIFICATIONS
- SAMPLE ROOM LAYOUTS
- RECOMMENDED  
EQUIPMENT LISTS



## **Marketing Education Program Overview**

The following information is provided to assist the local high school or locally operated career/technical center in the development of a comprehensive Marketing Education Program. There are ten career majors within Marketing Education: Advertising, Business/Marketing Education, E-Commerce, Fashion Marketing, Financial Services, Hospitality, Travel & Tourism, Management/Entrepreneurship, Marketing, Retailing/Wholesaling, and Sports Marketing. The curriculum will need to change as the industry changes, and all facilities need to be planned with flexibility and versatility in mind. The Program curriculum is aligned with the National Marketing Standards, Kentucky Occupational Skill Standards, and Kentucky Core Content for Assessment.

The facility should reflect the type of curricula provided. A facility may be planned to accommodate more than one curriculum (career major area). An example would be joint use of a Retailing/Wholesaling laboratory used by the students in the Fashion Marketing career major. A Marketing Education standard classroom could be used for a variety of career majors.

Throughout the planning of the facility for Marketing Education emphasis must always be on creating a place where a variety of activities can occur as students develop work related skills. For more information about the Marketing Education Program in the high school, please contact the Kentucky Department of Education, Division of Career and Technical Education, 500 Mero Street, 21<sup>st</sup> Fl. Capital Plaza Tower, Frankfort, KY 40601.

**MARKETING EDUCATION PROGRAMS shall be provided in accordance with the following table:**

**MARKETING EDUCATION INSTRUCTIONAL AREA**

Grade Level	Minimum Unit Area (Square Feet)	Unit/Student Ration
Middle/Junior High	900	1/150
High School Lecture/Work – based Learning Lab	1600	1/150

**Location: Shielded from noise – producing activities and functions**

**Support Spaces: The Instructional area shall be internally subdivided to provide the following support spaces:**

**MARKETING EDUCATION SUPPORT SPACES**

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
High School Lecture/Work – based Lab	Storage	100	Lockable room with shelving for instructional materials
	Teacher/Coop Office	200	Provide voice and data outlets; lockable file cabinets for confidential student records
	Work-based Lab	400	Varies per program

The Minimum Standards as given by the following table shall be provided in each Marketing Education Program:

#### MINIMUM MARKETING EDUCATION INSTRUCTIONAL PROGRAM STANDARDS

Standard	Minimum		
	Classroom	Lecture Lab	Cooperative Office
Student Capacity	28	28	1
Ceiling Height	8' – 8"	8' – 8"	8' – 8"
Room Dimension	22' – 0"	22' – 0"	10' – 0"
Artificial Illumination	50 foot candles	50 foot candles	50 foot candles
Chalkboard/Marker board	48 Square feet	48 Square feet	N.A.
Tack Board	48 Square feet	48 Square feet	N.A.
Finishes	Low maintenance	Low maintenance	Low maintenance
Storage	Storage for teaching materials	See b. 17.2	
Technology	Voice, data and video outlets at (1) teacher station; Data outlet at each student station per KETS standards; Power outlets at each computer and video outlet	Voice, data and video outlets at (1) teacher station; Data outlet at each student station per KETS standards; Additional data outlets for point of sale terminals and other industry equipment; Power outlets at each computer and video outlet	Voice, data and video outlets at (1) teacher station
Equipment	—	Customer service counter; other equipment varies by program	—
Utilities	—	—	—
Special Features	Direct access to Lab	Display window at entrance to Lab	—
Notes: Model layout for program type are available from KDE Division of Career and Technical Education			

FASHION DISPLAY WINDOW

FITTING ROOM

SCHOOL STORE STOCKROOM

SALES TRAINING LAB SCHOOL STORE

OFFICE

GENERAL STORAGE

REFERENCE & LIBRARY AREA

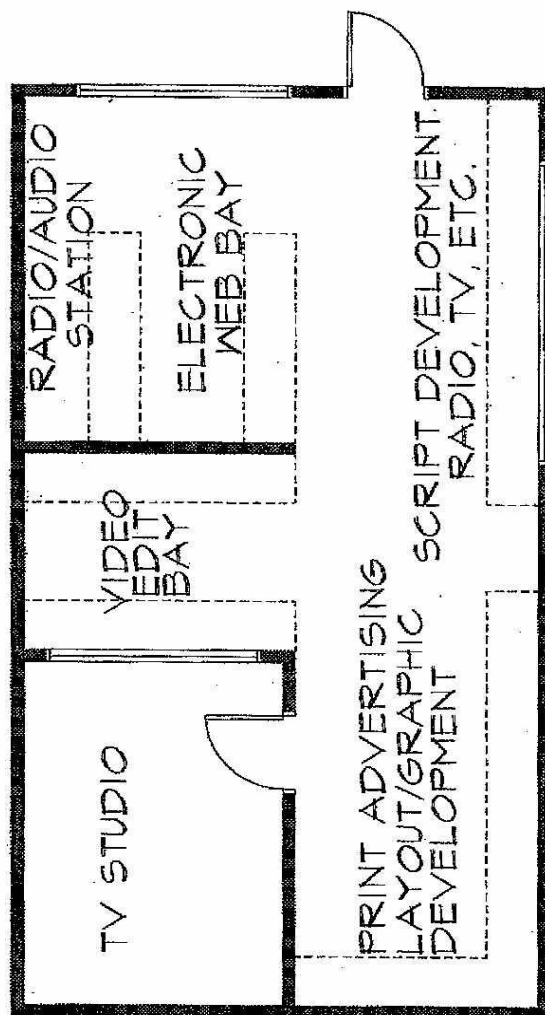
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# HDDS

**FOR THE RECORD**

**MARKETING VIDEO / ADVERTISING LAB**  
**KENTUCKY DEPARTMENT OF EDUCATION**  
 Division of Career and Technical Education  
 500 Marx Street 219 Capital Plaza Tower  
 Frankfort, Ky 40601



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## MARKETING EDUCATION EQUIPMENT LIST

The following Equipment Lists Accommodate the Career Majors in Marketing.

### STANDARD MARKETING CLASSROOM

Number	Item Name	Item Description
31	Calculators	Calculators with basic functions, % function, dual power
7	Computers	Level 2: See current KETS Standards; one Computer for the teacher and minimum of (6) for student groups
2	Printers	Networked: (1) Laser Printer, (1) Color Laser Printer
6	Tables/Stations	Computer Tables or Stations
1	TV	26" or larger Color TV
1	VCR/DVD player	Combination VCR/DVD player
1	Video Projector	3000 Lumen Projector (X350 suitable if not mounted)
1	Digital Camera	4 mega pixel or above
1	Digital Video Camera	Digital Video Camera
1	Lectern	
1	Audio Visual Cabinet	Audio Visual Cabinet; lockable storage
2	Storage Cabinets	72" height, 36" width, 18" depth
2	Filing Cabinets	3-4 drawer (vertical or standard) locking Filing Cabinet
2	Filing Cabinets	2 Drawer Filing Cabinets

## MARKETING OFFICE EQUIPMENT

Number	Item Name	Item Description
1	Telephone	Standard Telephone
1	Fax Machine	Plain Paper Fax
1	Desk/Chair	Office desk, Rolling Chair
1	Computer	Level 2: See KETS Standards

## RETAIL MARKETING LAB

**(THE ITEMS LISTED BELOW WOULD BE IN ADDITION TO THE ITEMS LISTED IN THE STANDARD MARKETING CLASSROOM)**

Number	Item Name	Item Description
1	Point of Sale Terminal	With Cash Drawer, Point of Sale Software, and Printer
1	Shadow Box	Display Case
1	Full-top Counter	15'- 20' long and 30" high for displaying merchandise with storage area or display area underneath
1	Slat Wall	Running above countertop for displays <b>OR</b>
2	Shelving Units	6 foot X 4 foot Shelving Unit with (6) shelves
1	Counter	Service Area/ Point of Sale Terminal: 84" long X 39" tall
1	Garment Rack	Circular or Waterfall
36	Shelving Brackets	For Slat Wall or Shelving Unit
6	Shelves	15" X 36" Bullnose Shelves
10	Shelves	15" X 24" Bullnose Shelves
6	Shelves	13" X 24" Bullnose Shelves
3	Crossbars	Chrome Crossbar, 48" for Slat wall or Shelving Unit
6	Down Slants	Down Slants (waterfall), 6 ball spots, 16" length; chrome
10	Display Hooks	6" and 10" length; chrome

2	Forms	Mannequin Forms/Torso
1	Pricing Marker	Pricing Sticker Label Gun
1	Pricing Gun	Puncture Tag Gun for Softlines

### **RETAIL MARKETING LAB (OPTIONAL)**

<b>Number</b>	<b>Item Name</b>	<b>Item Description</b>
1	Shelving Unit	Additional Shelving Unit (based on space)
1	Garment Rack	Additional Garment Rack (based on space)
2	Magazine Holders	Magazine Holder – acrylic or chrome
1	Stapling Gun	Standard Stapling Gun
1	Paper Cutter	Standard Paper Cutter
1	Display Turntable	Rotating Display Circular Stand
2	Anti-Shoplifting Mirrors	Anti-Shoplifting Mirror, 30" diameter with wide angle lens
4	Sign Holders	Sign Holder (10" x 4")
2	Shallow Baskets	Standard Shallow Baskets
2	Sloping Baskets	Standard Sloping Baskets
1	Time Clock	Standard Time Clock
1	Time Card Rack	Time Card Rack with 32 Slots
1	Glass Display Case	48" wide X 32"
1	Acrylic Slotted Display Rack	30" X 30" high and 20" deep; for individual items such as pens, markers, or snacks
1-4	Cash Registers	Basic Cash Register for training

## RETAILING SOFTWARE

Number	Item Name	Item Description
1	5 or 30 User License	Virtual Business – Retailing
Based on number of computers available	Licenses	Microsoft Power Point Microsoft Word Microsoft Publisher Microsoft Excel
Based on number of computers available	Licenses	Broderbund Printshop Broderbund Frontpage

## FOOD MARKETING LABORATORY

**A SCHOOL STORE SHOULD INCLUDE ADDITIONAL EQUIPMENT TO MATCH THAT OF A SMALL STORE. (THE ITEMS LISTED BELOW WOULD BE IN ADDITION TO THE ITEMS LISTED IN THE STANDARD MARKETING CLASSROOM)**

Number	Item Name	Item Description
1	Point of Sale Terminal	Point of Sale Terminal with Cash Drawer and Receipt Printer
1	Slat Wall	Running above countertop for displays <b>OR</b>
2-3	Shelving Units	6 foot X 4 foot Shelving Unit with (6) shelves
1	Countertop	15 to 20 feet long and 30" high; Full Top Counter with doors beneath for overstock
1	Countertop	84" long X 39" tall; for Point of Sale Terminal and Point of Purchase Displays or 1-2 Check Lanes
1	Cooler	Cooler for drinks requiring refrigeration
1	Freezer	Freezer for storing products that need to stay frozen
1	Refrigerator	Standard Refrigerator for food items requiring refrigeration
1-2	Slotted Rack	Magazine/Card Rack – 4 foot section

## **FOOD MARKETING SOFTWARE**

<b>Number</b>	<b>Item Name</b>	<b>Item Description</b>
		** No additional software needed beyond Retailing Software

## **ADVERTISING LABORATORY**

**(THE ITEMS LISTED BELOW WOULD BE IN ADDITION TO THE ITEMS LISTED IN THE STANDARD MARKETING CLASSROOM)**

<b>Number</b>	<b>Item Name</b>	<b>Item Description</b>
1	DVD Player	Standard DVD Player
2-3	Camcorders	Standard Handheld Mini DV Camcorder (number depending on size of program)
4-6	Computers	MacIntosh Computers needed for the Final Cut Pro Software (another type of computer may be required for different software)
1	TV/Monitor	13"-26" Color TV/Video Monitor
1	Audio/Video Mixer	Standard Video Mixer
1-2	Tripods	Tripod for Camcorder
4-6	Computer Desks	Standard Computer Desk (One Computer Desk for each Computer in the Advertising Program)
4-6	Chairs	Chairs, Posture adjustable, padded seat and back
1	Stand	Stand for TV/VCR (optional)

## ADVERTISING SOFTWARE

Number	Item Name	Item Description
1	License	Final Cut Studio 2 Made by Apple (works with MacIntosh Computers.)

## MARKETING EDUCATION EQUIPMENT LIST

### FINANCIAL SERVICES

**(THE ITEMS LISTED BELOW WOULD BE IN ADDITION TO THE ITEMS LISTED IN THE STANDARD MARKETING CLASSROOM)**

Number	Item Name	Item Description
3	Calculators	Calculators, electronic combination display and printing memory
2	Card File	Card File, 3"x5" or 4"x6" or Rol-a-dex
2-3	Cash Drawers	Cash Drawers
1	Cash Safe/Vault/Lock Bags	Cash Safe/Vault/ Lock Bags
1-3	Chairs	Chairs, Posture adjustable, padded seat and back
2-3	Stools	Elevated Stools with padded seat and back
1	Computer	Computer: See Level 2 KETS Standards
2	File Cabinets	File Cabinet, 4-drawer, lateral with lock
1	Journal and Ledger	Journal and Ledger Book
1	Paper Cutter	Paper Cutter with guard
1	Printer	Laser Printer
1	Copier	Access to Copier, plain bond to accommodate a book and single page, reduction and/or enlargement mode
1-2	Stamp Pads	Stamp Pads, red and black ink
3+	Stamps	Stamps: date received, paid, canceled, etc.
2	Tables	Table, 17" high and 18" diameter
1	Telephone	Telephone with outside line

1-3	Teller Cage	24"D x 38"H x 60"W (approximate size of one cage)
Based on number of computers	Software Examples	Accounting/Spreadsheet/Graph: Peachtree, BPI, Lotus, Excel, Quattro Pro
1	Desk	Desk, 5' x 3' minimum for computer
1	File Cabinet	Locking File Cabinet: 2-drawer to store equipment/supplies
1	Digital Camera	4 mega pixels or higher
1	Label Maker	Standard Label Maker
5+	Binders/Manuals	Binders/Manuals for each dept: Teller, Loans, Collections, Accounting, Marketing, President, etc.

### **TRAVEL AND TOURISM**

**(THE ITEMS LISTED BELOW WOULD BE IN ADDITION TO THE ITEMS LISTED IN THE STANDARD MARKETING CLASSROOM)**

<b>Number</b>	<b>Item Name</b>	<b>Item Description</b>
1	Rack	43" x 60" Magazine/Brochure Rack
1	Computer	Laptop Computer with Internet Access

### **TRAVEL AND TOURISM SOFTWARE**

<b>Number</b>	<b>Item Name</b>	<b>Item Description</b>
Based on number of available computers	Licenses	Microsoft Power Point  Microsoft Publisher
Based on number of available computers	Licenses	Adobe Photoshop
Based on number of available computers	Drafting Program	(Optional – CAD, Corel Draw, etc.)

## **FASHION MARKETING**

**(THE ITEMS LISTED BELOW WOULD BE IN ADDITION TO THE ITEMS LISTED IN THE STANDARD MARKETING CLASSROOM)**

<b>Number</b>	<b>Item Name</b>	<b>Item Description</b>
1	Soft lines Form	Soft lines Form that allows the use of pins
1	Tape Measure	Standard Tape Measure
Various	Fabric Samples	Various Fabric Samples for demonstrations/displays
1	Display Case	4' X 6' Display Case (Optional)
1	Shadow Box	Standard Shadow Box (Optional)

## **FASHION MARKETING SOFTWARE**

<b>Number</b>	<b>Item Name</b>	<b>Item Description</b>
		** No additional software needed beyond Retailing Software

## **SPORTS MARKETING SOFTWARE**

<b>Number</b>	<b>Item Name</b>	<b>Item Description</b>
1	5 or 30 User License	Virtual Business – Sports Software
1	Fantasy Sports in the Classroom	Fantasy Sports Software & Sports Marketing Curriculum and Stat Service

## **ENTREPRENEURSHIP SOFTWARE**

<b>Number</b>	<b>Item Name</b>	<b>Item Description</b>
1	5 or 30 User License	Virtual Business – Retailing
1	5 or 30 User License	Virtual Business – Management

## **BUSINESS/MARKETING EDUCATION SOFTWARE**

<b>Number</b>	<b>Item Name</b>	<b>Item Description</b>
		** No additional software needed beyond Retailing Software

## **E-COMMERCE SOFTWARE**

<b>Number</b>	<b>Item Name</b>	<b>Item Description</b>
Based on number of available computers 1	License	Adobe Illustrator
Based on number of available computers	License	Macromedia FreeHand
Based on number of available computers	License	Quark Xpress
Based on number of available computers	License	Adobe PageMaker
Based on number of available computers	License	Clear Case Frame Maker

# PATHWAY TO CAREERS FACILITY GUIDE



# PATHWAY TO CAREERS EDUCATION

- OVERVIEW
- GENERAL SPECIFICATIONS
- SAMPLE ROOM LAYOUTS
- RECOMMENDED  
EQUIPMENT LISTS



## **Educational Program Overview Design and Equipment**

Pathway to Careers is a program area in Career and Technical Education, which provides a continuum of career educational experiences and incorporates a wide-range of instructional activities, utilizing different learning styles for all students as they relate to career awareness, exploration, and preparation.

Program emphasis is on learning-by-doing in a wide range of activities makes the development of appropriate facilities critical. Since a large portion of the curriculum involves exploration of career clusters, the room should be designed to facilitate a variety of hands-on experiences related to these career clusters. Thus, centers for various career areas should be planned with appropriate storage, work areas, and equipment to approximate work areas found in those careers. For example, a desk, filing supplies, computer, and other office equipment can be the basis for experiences in office-related occupations.

Regular classroom areas also are important in this space. Some classes may include large group presentations using more traditional classroom configurations. On the other hand, if the area and arrangement of furniture are flexible, the classroom can be made less formal as the situation demands.

The teacher will also need a work area with adequate storage for records and supplies, including secure storage areas for student records. In addition to the usual classroom needs, career assessment materials and records will require work area and storage.

Throughout the planning of the facility for Pathway to Careers, emphasis must always be on creating a place where a variety of activities can occur as students develop work related skills. The classroom should be an integral part of the school and located in close proximity to the career/technical area. It should also provide for good organization of materials and the courses. There should be enough area for movement of a variety of students, including those who need wheel chairs, scooters, or other adaptive technology.

Equipment lists are provided to aid school personnel in the selection of equipment, software, and other resources to meet the objectives outlined for all students in the Program of Studies.

The recommended quantity for itemized equipment is based on class enrollment from 20-31 students and is to provide opportunities for real-world experiences.

## **General Specifications**

In general planning for a Pathway to Careers facility, it is assumed that it would serve a group of about 20-31 high school students at a time. It must also be accessible to all who have disabilities.

### **Space Needs**

#### **Number and Type of Rooms**

A single, well-planned multipurpose room for one teacher can serve both orientation and exploration purposes. A portion of the room should be available for flexible classroom seating while another portion should have a variety of career related centers and storage areas for selected career exploration materials. It is advisable that the room have access to an outside entrance with a concrete apron that can be used for a variety of experiences in clusters such as agriculture, business and marketing, communications, construction, health, human services, manufacturing, public services, and transportation.

#### **Instructional Areas to be Taught**

This facility needs to accommodate instruction for Career Options, Career Networking, and Cooperative Work Experience. The nature of these courses will require a variety of settings for in-school and out-of-school experiences.

**Career Options** focuses primarily on orientation to the 14 career clusters with emphasis on employability skills such as seeking and keeping a job. This course needs flexible classroom space for presentation/lecture, discussion, individual and group work, and relevant computer applications.

**Career Networking** includes a continuum of employability skills, computer technology, and opportunities for in-depth exploration in various career clusters. At a minimum, space is needed for exploration in:

- Agriculture: General work space for experiences in horticulture, gardening and grounds keeping, greenhouse work, lawn service work, and agricultural production.
- Business and Marketing: Space to set up marketing/retailing and sales processing experiences: shelving, check-out-counter, etc. Reception/office desk area with file cabinet, and computer and phone installation for experiences in office services.
- Communications: area for computers with desktop publishing, web page development software, and an area for photographic equipment.
- Construction: An area for carpentry, masonry, plumbing, and building maintenance experiences -- counter work area, floor area, and/or work-task simulation equipment.
- Health: Space for a folding bed and bedside table for exploring careers in medical services.
- Human Services: Flexible floor area, food preparation area (including kitchen appliances) and table and chairs for food service and for preparing children's snacks
- Manufacturing: Space for wood working center and for one or more work-sample carrels such as computerized numerical control.
- Public Service: Space for mail sorting and handling, meter reading, water treatment, and fire safety.

- Transportation: a work simulation carrel on small engine service and storage for supplies relating to car detailing.

**Cooperative Work Experience** focuses on work experience in business and industry with classroom support. This course needs no additional space other than the space identified for Career Options.

### **Storage Space**

#### **For students:**

- Open shelves for student materials should be provided just inside the door from the hallway.
- Cabinet storage for students projects and personal items, (i.e., tote trays) and wardrobe cabinet for lab coats

#### **For instructional supplies:**

A variety of types of storage will be needed, such as:

- Locking files for confidential student material
- Files for curriculum materials, records, etc.
- Open bookshelves for reference books
- Self-contained storage for career exploration equipment
- Locking storage for equipment such as audio-visual equipment, computers and tools.
- Storage for general department supplies
- Display unit for career related reading materials
- Flat storage for posters and other large flat materials

### **Teacher Conference Area/Office Space**

A space should be provided for the teacher's office allowing for at least the following:

- Desk/work area
- Seating space for student conferences
- Space for locking file cabinets and unlocked storage
- Privacy for student conferences
- Phone
- View of classroom from the office/conference area

### **Floor Plan and General Layout**

This general layout of a floor plan for the multipurpose classroom for Pathway to Careers programs is a sample for planning only. Contact the Division of Career and Technical Education for details and specifications.

**PATHWAYS TO CAREER PROGRAM shall be provided in accordance with the following table:**

**PATHWAY TO CAREERS**

Grade level	Minimum Unit Area (Square Feet)	Unit/Student Ration
Elementary	N.A.	N.A.
Middle/Junior High	750	N.A.
High	1800	One Per Program

**Location:** Shielded from noise – producing activities and functions

**Support Spaces:** The Minimum Instructed area shall be internally subdivided to provide the following support spaces:

**PATHWAY TO CAREERS SUPPORT PROGRAM SPACE**

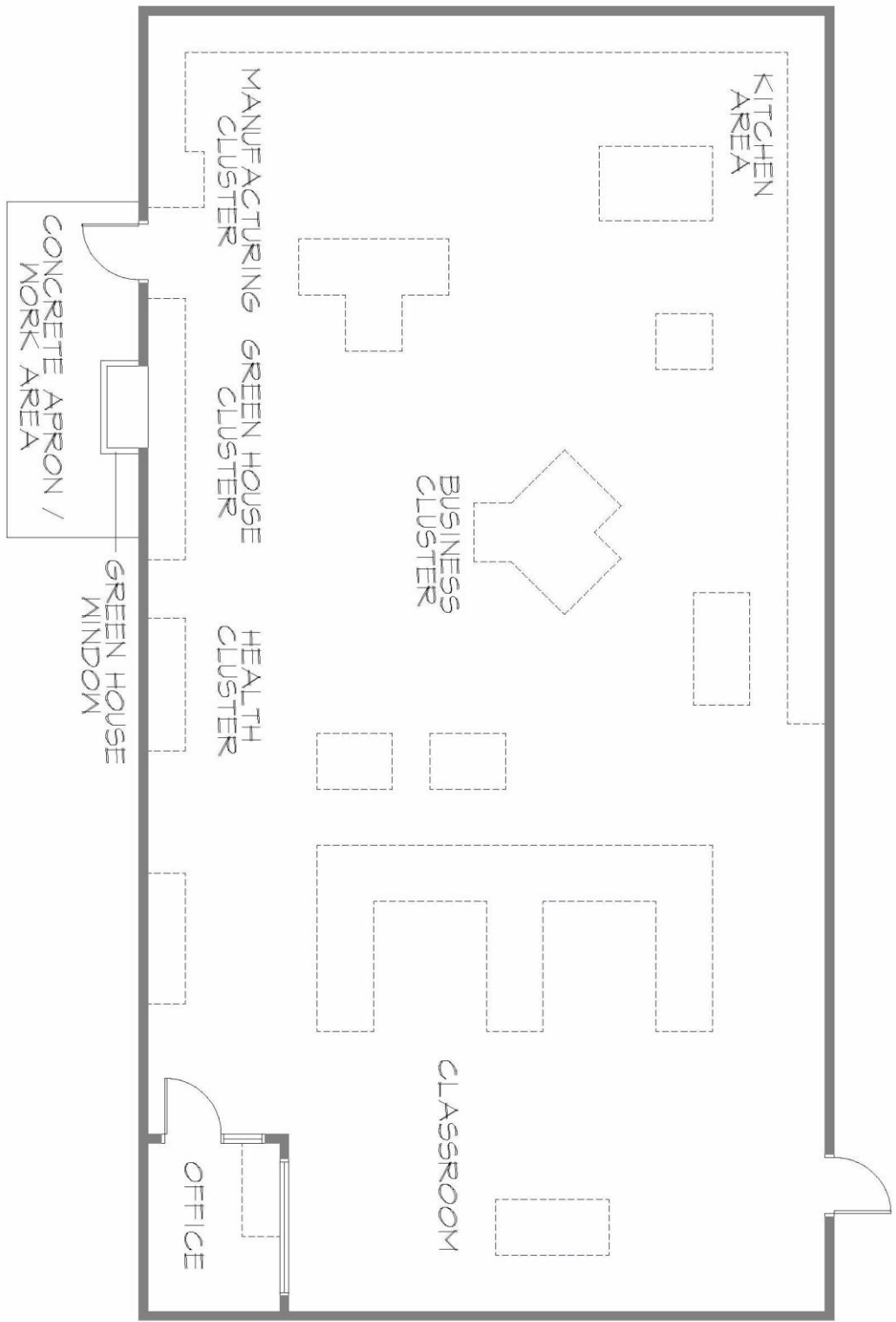
Grade level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
High School	Storage	200	Storage for reference books & teaching materials

**The Minimum Standards as given by the following table shall be provided in the Pathway to Career Program**

**MINIMUM PATHWAY TO CAREERS INSTRUCCIONAL PROGRAM STANDARDS**

Standard	Minimum	
	Support	Instructional Space
Student Capacity	N.A.	20 – 31 Students
Ceiling Height	8' – 8"	8' – 8"
Room Dimension	8' – 0"	32' – 0"
Artificial Illumination	50 foot candles	50 foot candles
Chalkboard/Markerboard	N.A.	48 Square feet
Tack board	N.A.	48 Square feet
Finishes	Low maintenance	Low maintenance
Storage	See b. 16.2	
Technology	Voice, data and video outlets at (1) teacher station; Data outlet at each student station per KETS standards; Power outlets at each computer and video outlet	
Equipment	Provide equipment per program and curriculum requirements based on KDE recommendations	
Utilities	Provide hand washing sink	
Special Features		

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**DRAWN BY:** HDDS, Inc.  
**CHECKED BY:**  
**APPROVED BY:**  
**PILOT DATE:** 1-11-2008  
**REVISIONS:**

**PATHWAY TO CAREERS PROGRAMS**  
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**Pathway to Careers:  
Career Options Level I  
Equipment List**

<b>Item</b>	<b>Item Description</b>	<b>Quantity</b>
3-Hole Punch	Heavy duty, adjustable	1
Black & White Printer	KETS approved	1
Bookshelf	72" adjustable shelves	1-2
Bulletin Board/Display Case		1
Calculator	Solar, hand-held	1 per student
Camcorder	With editing software	1
Camera	Digital	1
Chair	Teacher's	1
Chairs	Student	20-31
Computer (CPU, Monitor and Headset)	Student workstations, Instructional Device Unit Model per KETS	1 computer to 4 students
Copier Machine	Access for teacher	1
Desk	Teacher's	1
Digitized Text	Software for use as reader, scribe for students with special needs (confer with Department Chair for exceptional children)	As needed
Document Shredder	Heavy duty	1
Dry Erase Board		1
Electric Pencil Sharpener	Heavy duty	1
Extension Cords	UL approved	As needed
File Cabinets	Letter size, 4 drawer, with lock	2
Literature Display Stand	Literature, magazines, and resource materials	1
Laptop or Desktop	Instructional Device Unit Model per KETS  Connected and dedicated to LCD and/or Smartboard	1
Mobile AV Cabinet	Fully enclosed for equipment with adjustable shelves and lock	1
Mobile File Cabinet	For teacher's use	As needed

Multifunction Color Printer	KETS approved Scanner/Copier/Printer	1
Multimedia Projector	Mounted on ceiling with remote	1
Overhead Projector	Portable (as needed for student projects and curriculum use)	1
Paper Trimmer	Heavy duty	1
Presentation Stand	Stand with under storage, casters, and electrical outlet	1
Scissors	Assorted sizes, some left-handed	1 per student
Smartboard  OR  Screen	Interactive whiteboard, permanently mounted with portable tablet  OR  A 50" x 50" AV wall screen	1
Software	MS Office and other software relating to units of study	1 per computer
Staple Removers		As needed
Stapler	Electric, plus staples	2
Storage Cabinet	72" built-in w/lock for classroom supplies/resources	1
Surge Protector		As needed
Table with Accessible Storage for CPU & Keyboard Trays          Student Computer Workstations with CPU Stands & Keyboard Trays	6' x 30" student table or 6' trapezoid 3' wide, adjustable height	As needed          1 workstation for every 4 students
Tape Dispenser	Deluxe tape dispenser, plus tape	2
Tray Cabinet	24 tote, tray unit on casters	1
USB Memory	Flash drive, jump drive, etc. for teacher's use	1
VCR/DVD	With recording capabilities	1
Wall Clock		1
Waste Basket		2-4

**Pathway to Careers:  
Career Networking Level II  
Equipment List**

Item	Item Description	Quantity
3-Hole Punch	Heavy duty, adjustable	1
Black & White Printer	KETS approved	1
Bookshelf	72" adjustable shelves	1-2
Bulletin Board/Display Case		1
Calculator	Solar, hand-held	1 per student
Camcorder	With editing software	1
Camera	Digital	1
Cash Register	Rental	1
Chair	Teacher's	1
Chairs	Student	20-31
Computer (CPU, Monitor and Headset)	Student workstations, Instructional Device Unit Model per KETS	1 computer to 4 students
Copier Machine	Classroom use	1
Desk	Teacher's	1
Digitized Text	Software for use as reader, scribe for students with special needs (confer with Department Chair for exceptional children)	As needed
Document Shredder	Heavy duty	1
Dry Erase Board		1
Electric Pencil Sharpener	Heavy duty	1
Extension Cords	UL approved	As needed
File Cabinets	Letter size, 4 drawer, with lock	2
Literature Display Stand	Literature, magazines, and resource materials	1
Laptop or Desktop	Instructional Device Unit Model per KETS  Connected and dedicated to LCD and/or Smartboard	1

Mobile AV Cabinet	Fully enclosed for equipment with adjustable shelves and lock	1
Mobile File Cabinet	For teacher's use	As needed
Multifunction Color Printer	KETS approved Scanner/Copier/Printer	1
Multimedia Projector	Mounted on ceiling with remote	1
Overhead Projector	Portable (as needed for student projects and curriculum use)	1
Paper Trimmer	Heavy duty	1
PDA (Personal Digital Assistant)	Teacher's use to model	1
Presentation Stand	Stand with under storage, casters, and electrical outlet	1
Scissors	Assorted sizes, some left-handed	1 per student
Smartboard  OR  Screen	Interactive whiteboard, permanently mounted with portable tablet  OR  A 50" x 50" AV wall screen	1
Software	MS Office and other software relating to units of study	1 per computer
Staple Removers		As needed
Stapler	Electric, plus staples	2
Storage Cabinet	72" built-in w/lock for classroom supplies/resources	1
Surge Protector		As needed
Table with Accessible Storage for CPU & Keyboard Trays  OR  Student Computer Workstations with CPU Stands & Keyboard Trays	6' x 30" student table or 6' trapezoid 3' wide, adjustable height	As needed   1 workstation for every 4 students
Tape Dispenser	Deluxe tape dispenser, plus tape	2
Time Clock	Electronic or automated, plus time cards	1
Tray Cabinet	24 tote, tray unit on casters	1

USB Memory	Flash drive, jump drive, etc. for teacher's use	1
VCR/DVD	With recording capabilities	1
Wall Clock		1
Waste Basket		2-4

### Equipment for Implementing Exploratory Programs

<b>Exploratory Experience in Agriculture</b>		
<b>ITEM</b>	<b>DESCRIPTION</b>	<b><u>QUANTITY</u></b>
Computer and applicable software	Horticulture, floriculture, grounds keeping	As needed
Trowel		2
Hoe		2
Spade	Balling & root	2
Shears	Lopping	1
Peat Pots	Leaf	As needed
Rakes	Garden	
<b>Exploratory Experience in Business and Marketing</b>		
Computer and applicable software	Business	As needed
Basket	In/Out	1
Mail sorting materials	Alpha – zip code	1
Scales	Weighing	1
File cabinet	2-drawer	1
Copier machine		1
Printing calculator		
<b><u>Office Setting Area to Include</u></b>		
	Secretary's desk	1
	Secretary's chair	1
	Telephone	1
	Computer with multifunction printer	1
	Office chair/table for reception area	1 set
	Desk accessories	1
Digital camera/camcorder w/tripod		1

		<u>QUANTITY</u>
ITEM	DESCRIPTION	
Computer and applicable software	Marketing	
Shelving:	6 linear shelving, 2-3 shelves high	1
Check-out counter	Permanent or mobile	1
Cash register and software package	Computerized with soft-ware package	1
Scanning wand		1
Display racks	To be determined by various product usage	1
Credit card imprinter/reader		1
Pricing gun	Pricing gun, label and tag	1
Price tickets		1
Signage package	3" x 1/8" TH plexi glass letters	1
Vacuum cleaner	Portable	1
Wrapping paper dispenser		1

ITEM	DESCRIPTION	<u>QUANTITY</u>
<b><u>Exploratory Experiences in Communication</u></b>		
	Computer with applicable software Desktop publishing, webpage construction, graphics, etc.	As needed
	Camera Digital	1
	Audio-Visual Recorder Camcorder	1
	Printer Color laser	1
<b><u>Exploratory Experiences in Construction</u></b>		
	Computer and applicable software Construction (introductory construction, plumbing, masonry)	As needed
	Building Maintenance Work Module: Free standing	1
	Samples of floor material (carpet, linoleum, wood, tile)	1 set
	Materials and supplies to care for floors (vacuum cleaner, broom, mop)	1 set
	Wall samples & materials (wallpaper, vinyl, dry wall)	1 set
	Carpentry hand tools	
	Hand tools Claw hammers	4
	Assorted nails, screws	As needed
	Assorted hand saws	1 each
	Measuring equipment Folding rulers, 50' tape, yardsticks, plumb line	As needed
	Assorted squares	1 set
	Other equipment Mallet	1
	Nail set (punch)	1
	Level	1
	Paint brushes	1 set

Vise		1
Blueprint samples		1 set
<b><u>Exploratory Experiences in Health</u></b>		
Computer and applicable software Health		As needed
Thermometer (Electronic oral)		2
Height wall chart		1
Weight scales	Adult (with metric standard)	1 set
Tray table to serve a patient meal	Plate, silverware, glassware	1 set
Grooming aids	Assorted	1 set
Linens	Sheets, pillowcase, blanket, towel, washcloth	1 set
Bed	Roll-away type	1
Bedside set	Wash basin, soap dish, water pitcher, etc.	1 set
Stethoscope		1
Blood pressure cuff	Wrist or Arm	1
Resusci-Annie and supplies	Shared with Public Service experiences	1
<b><u>Exploratory Experiences in Human Services</u></b>		
Computer with applicable software		As needed
Table accompaniments for serving a meal	Tray, salt, pepper, pitcher, plates, glassware, silverware, etc.	1 set
For short order cook:		
	2-burner cooking unit	1
	Electric skillet/grill	1
	Blender	1
	Coffee maker	1

Oven roaster	1
Small refrigerator	1
Crock pot	1
Microwave oven	1
Electric can opener	2
Hand mixer	1
Basic measuring, mixing and cookware equipment	4 sets
Dinnerware Set for 4	1 set
Silverware Set for 4	1 set
Table Linen Set for 4	1 set
Stack washer/dryer	1
Materials for child care	
Books Assorted	1 set
Toys Assorted	1 set
Supplies and equipment for preparing snack for children Assorted	1 set
Tables and chairs (child-size) Assorted	1 set
Floor mats Assorted	1 set
Computerized doll "Think It Over Baby" Assorted	1
Hospitality:	
Telephone	1
Games for various age groups Assorted	1 set/age group
Software for hotel registration Assorted	As needed
Credit card imprinter/reader Assorted	1

<b><u>Exploratory Experiences in Manufacturing</u></b>		
Computer and applicable software		As needed
Table top simulation carrels [CNC lathe, wood production equipment; plastics equipment such as injection molds, vacuum mold, oven, Plastisol, and Plastisol molds; computerized numerical control milling machine & supplies to produce a student project]		As needed
Electricity/electronic kits		1 set
<b><u>Exploratory Experiences in Public Services</u></b>		
Computer and applicable software (GPS system--Global Positioning Satellite)		As needed
Equipment for post office-type mail sorting		1 set
Water testing kit		1
Fire extinguisher		2
City and county maps		As needed
Fire fighter clothing		1 set
Resusci-Annie and supplies-shared with Health Experiences		1
Gauges	Pressure gauges	1 set
Environmental Trainer Kit		1
<b><u>Exploratory Experiences in Transportation</u></b>		
Computers and applicable software		As needed
Small engines	Unit/Training System	1 or more
Engine stands		1 or more
Wrenches	Fly wheel	1 or more sets
Kits:	Bridge Building, Lego Building Boat Building	1 or more sets
Nut drive sets	Socket, Racket	1 or more sets
Wrenches	Socket	1 or more sets

Wrenches	Torque	1 or more sets
Screwdrivers	Assorted –flat tip, Phillips head	1 or more sets
Other tools/equipment		As needed

**Pathway to Careers:**

**Career Work Experience Level III/IV**

**Equipment Lists**

The listing of major/minor equipment for Career Options-Level I and Career Networking-Level II is applicable for Cooperative Work Experience with the following additions:

<b>ITEM</b>	<b>ITEM DESCRIPTION</b>	<b>QUANTITY</b>
Computer	Software focusing on:	As needed basis
	Employability skills	
	Work Ethics	
	Technological information on seeking, obtaining changing jobs	
	Transiting Planning to post-secondary opportunities	

**FOR ADDITIONAL INFORMATION CONTACT:**

**Division of Facilities Management**

**Or**

**Division of Career and Technical Education**

**Capital Plaza Tower**

**500 Mero Street**

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